

Notas

ECONOMIC PREDICTION: IRVING FISHER AND LUDWIG VON MISES

LAURA DAVIDSON*
WALTER E. BLOCK**

Fecha de recepción: 14 de septiembre de 2017
Fecha de aceptación: 27 de septiembre de 2018

I INTRODUCTION

Economists in general are now in trouble with the public.¹ With some very, very rare exceptions, we have not predicted the latest depression; nor does our profession seem to be able to clearly forecast when (oh when) we will put the present malaise behind us.

To be sure, there are a few members of our profession who have seen their way clearly in this regard.² But, it is the contention of

¹ According to Paul Samuelson (<http://www.electecon.com/posts/1200789534.shtml>): «Economists have predicted nine out of the last five recessions.» Also see Corcoran, Terrence (2009). Also: http://www.smartbrief.com/news/naw/storyDetails.jsp?issueid=678B67A3-91AC-49B3-BDD0-6CCF13B41355©id=F908FD1F-9956-4018-9CFC-3016DE1DC931&brief=NAW&sb_code=rss&&campaign=rss; <http://www.thedaily.com.au/news/2009/mar/11/economist-admits-predictions-were-wrong/>; http://www.accessmylibrary.com/coms2/summary_0286-9041854_ITM

² Given that there are thousands of dismal scientists continually making predictions, *some* of them are *bound* to be correct, at least sometimes. See for example, http://www.usatoday.com/money/economy/2009-03-17-top-economists-jpmorgan_N.htm

* Independent Scholar. Seattle, WA. [davidsonlaura@hotmail.com](mailto: davidsonlaura@hotmail.com)

** Harold E. Wirth Eminent Scholar Endowed Chair and Professor of Economics. Joseph A. Butt, S.J. College of Business, Loyola University New Orleans, 6363 St. Charles Avenue, Box 15, Miller Hall 318, New Orleans, LA 70118. tel: (504) 864-7934. fax: (504) 864-7970. wblock@loyno.edu

this paper that they have not done so qua economists. Rather, they have taken on the role of entrepreneurs, a not totally unrelated field of endeavor.

Economic prediction takes the following form: if A occurs, then B will be higher (lower)³ than it otherwise would have been. One difficulty about peering into the future in this regard in terms of pin point precision, is that we never know, in advance, whether or not A will occur. All too often this turns on the results of an election, or, from which side of the bed various politicians, bureaucrats and other such denizens exit.

For example, consider the following:

If a minimum wage law is implemented (or its level raised), then unemployment for unskilled workers will be higher than otherwise would have been the case.⁴

If the money stock in circulation is increased by the central bank, prices will be higher than they otherwise would have been.

If government imposes a tariff, then economic welfare will fall below the level that otherwise would have obtained.

First, economists have no comparative advantage in knowing, ahead of time, whether a minimum wage, a change in the money stock or a trade barrier will occur. Second, and far more important, economic law necessarily compares a real state of affairs with a hypothetical one that would have taken place had the initial change, or phenomena, not occurred. Thus, even if professional economists full well know the antecedent, they cannot predict,

³ Or more or less probable.

⁴ We acknowledge an intellectual debt to Hulsmann (2003, 68) who states: «In particular, what does it mean to say that inflation causes an increase of the price level, or that unemployment insurance causes an increase of unemployment? As compared to what do the price level and unemployment increase, according to these laws? The fact is that these laws—as pertinent as they might be on other grounds—cannot be established on the mere basis of systematic observations. Inflation does not always lead to a higher price level than the one that existed at the inception of the inflation. Sometimes we observe money inflation followed by a stable or decreasing price level. Similarly, in some cases, we observe price ceilings but no shortages, and unemployment insurance does not always go in hand with unemployment. In all these cases, other factors intervene simultaneously, factors that partly or totally offset the operation of the factor under consideration. This is so, for example, when the effect of inflation on money prices is offset by economic growth, or when unemployment insurance is counterbalanced by a strong work ethic.»

qua economists, what will then result. At best, we can only offer a contrast with a hypothetical situation which never existed.

Let us now turn from these relatively simple economic laws to those concerning depressions, recessions, the business cycle, etc., which are far more complex.

According to Friedman (1957) economics lives or dies based on its predictive powers. If so, the dismal science is now moribund, based on its inability to forecast the present depression, and has been in a brain dead state since, well, forever, since economists don't predict any better than weathermen. According to Norman (2003)⁵:

«I'm an economist. Big deal, right? Until last year, economists got even less respect than Wall Street analysts; now, we're just a notch above. Admittedly, this reputation is well —deserved, because it comes from our less-than-stellar ability to get economic forecasts right. With all of that data and plenty of powerful computing ability, you'd think we could produce better forecasts. Heck, even the local weatherman puts us to shame.»

But even otherwise sound economic thinkers can go awry on this issue. States Thornton (n.d.a., p. 3, footnotes removed):

«We compare Mises's performance to that of Irving Fisher, the inventor of modern mainstream economics. The results of this investigation are of much more than of simple antiquarian interest because it provides evidence regarding the validity of Mises's and Fisher's contributions to economics, and their contributions in turn represent the foundations of Neoclassical and Neo-Austrian economics, especially with respect to the nature of money and interest, monetary and business cycle theory, and the role of history in economic methodology. Representing nearly polar-opposite views, Fisher placed prediction at the heart of his science and yet had no foresight of the Great Depression, while Mises cast economic forecasting outside the realm of economic science and yet was able to predict the depression and accurately describe the pitfalls of Fisher's monetary system in 1928. As such, this comparison

⁵ Cited in Thornton, n.d.b.

provides evidence both on the merits of Mises's contributions and the likelihood of their ultimate triumph.»

But if the analysis of Mises is correct, then Fisher's failure to forecast his way out of a paper bag does not disprove his theory, any more than Mises' success in prediction establishes his substantive views as correct. The point is, both of these eminent economists are making predictions not *qua* economist, but, rather, in their capacity as businessmen, or entrepreneurs, at least according to the perspective we are defending in this present paper. True, Fisher and Friedman posit that their respective economic theories should stand or fall based on the quality of their predictions, but they are wrong in this contention.

Paradoxically, Fisher and Friedman lose from the evisceration of their viewpoints on prediction; their forecasting abilities were found wanting. On their own account, this would disparage their economic theories. But, if we rely on Mises, then Fisher becomes resuscitated to that extent. Also, paradoxically, Mises himself loses out from the adoption of his perspective on prediction. Mises was a good forecaster, at least in comparison to Fisher. But this ability of his does not in the least promote his economic theories about the business cycle. We can compare the forecasting abilities of Fisher and Mises in the following way:

The irony is that even though Austrian economists reject forecasting as a part of economic science, they nevertheless tend to be better forecasters than neoclassical economists who claim the science «lives or dies» by the practice.

II

WHY ECONOMISTS WHO EMPLOY THE METHOD OF PHYSICS MAKE POOR FORECASTERS

Unlike the Austrian School, the neoclassical synthesis adopts the methodology of the natural sciences. Since one of the great triumphs of the natural sciences is its predictive power, it might seem that mainstream economists ought to be better forecasters than their Austrian counterparts.

However, consider the scientific method as it is used in say, physics. In order to explain the cause of a particular phenomenon, and thereby forecast similar future events, the physicist examines the empirical data, and through a process of induction, derives a hypothesis; essentially an educated guess as to the cause, in terms of underlying variables. The assumption is that the governing relations between the variables are time and place-invariant; that is, they are determined by universal laws. Experiments are then performed, in which one or more of the variables are altered, in order to examine the effect. If, after many such experiments, the results are consistent with the hypothesis, the hypothesis is confirmed, in which case it may be said to be a theory.

In physics, it is possible to design experimental processes that completely isolate and control the factors being considered in the hypothesis while holding constant all others that might influence the outcome. This means that, when confirmed, the resultant theory can be used to make predictions in real-world situations that are (more-or-less) definite, and not merely probable. Of course, a single non-conforming result invalidates the theory, but in this case a modified hypothesis can lead to a new theory if further experiments are undertaken with confirmatory findings. Even though the predictions of physics are never absolutely certain, because they are always falsifiable by a single inconsistent result, they are often certain enough for all practical purposes.

Mathematical propositions are deduced a priori, but they are uniquely suited to describe physical laws. There are two reasons for this. First, mathematical statements are universal; i.e. if they are true now, they are always true, which is important because physical laws are also time-invariant. And second they are mutually determinative. In other words, any one variable can be described as a function of all the others, which is also true for the relations governing the variables in physics.

In adopting logical positivism, mainstream economists contend that the same methodology used in physics — induction and empiricism — can be used to derive hypotheses concerning human action. Even though such controlled experiments cannot be performed due to obvious ethical and practical considerations, they claim their hypotheses can be tested and confirmed using empirically-acquired historical data, and the resulting theories described using mathematical terms.

So why are they such horrible forecasters? Why is the scientific method so bad at predicting phenomena concerning human action?

First, without the benefit of a controlled experiment, only the gross data can be examined, so the economist can never know precisely which variables are having an effect and which are not. Second, unlike the action of physical objects — e.g. a ball thrown into the air, or the movement of a planet — human beings are motivated; they have free will, and therefore the relations between the variables governing human action are never time and place-invariant. Third, the relations in human action are not mutually determinative; they are not of the type A is a function of B; rather, they are of the type A causes B. And this is problematical because, whereas in the case of the former, it is valid to imply B is the inverse function of A (E.g. $\text{force} = \text{mass} \times \text{acceleration} \Rightarrow \text{acceleration} = \text{force} / \text{mass}$), it is not valid to imply B causes A if A causes B in the case of human action. If, for example, we conclude that a sudden downpour causes a woman to open her umbrella, we cannot deduce from this circumstance that opening her umbrella causes it to rain. Or consider the statement: raising the minimum wage causes unemployment to be higher, *ceteris paribus*. We cannot also say this implies higher unemployment causes a rise in the minimum wage, *ceteris paribus*.

Finally, the units analyzed in physics, such as mass, distance, time, etc., are infinitely divisible, which means calculus can be used to derive more complex relations that can further our understanding of a range of additional phenomena. But in economics, the units are often not infinitely divisible; they are discrete, and therefore calculus cannot be used. Mathematics, therefore, is not a suitable language to describe human action. Given the problems with this methodology when applied to the dismal science, is it really any wonder that the predictions of the logical positivists are so poor?

III

WHY RATIONAL EXPECTATION THEORISTS FARE NO BETTER AT PREDICTION

In the natural sciences, the occurrence of a particular phenomenon under a given set of conditions cannot always be predicted exactly.

Rather, it can only be assigned a probability. In this kind of circumstance, there are no laws that can yield definite (or nearly definite) predictions as to whether or not the phenomenon will occur in any particular case. But when it can be demonstrated that the event occurs with a consistent frequency among many similar cases, then a (more-or-less) definite prediction — definite until proven otherwise — can be made in terms of the probability of that event occurring in the future. Thus, for example, in a manufacturing process, we might determine that if in the past a machine producing widgets makes a bad one for every 5,000 manufactured, then the probability that any one widget will be malfunctioning in the future is one in five thousand.

Rational expectation theorists adopt a similar methodology in trying to predict outcomes of human action. They admit that a given event can never be predicted with the same precision as that found in physics. Nevertheless, they contend it is possible to know the probability of such an event occurring in the future, and this probability can be known with practical certainty. However, the rational expectation theorists fare no better in their predictions than other mainstream economists. Why is this the case?

In the natural sciences, there are two methods for determining the probability of a future event. The first involves an experiment, but, in contrast to the kind used in physics, it is the frequency of a particular outcome that is measured, under a given set of conditions, rather than the consistency of singular type of event. The more times the experiment is repeated, the greater is the confidence that the observed frequency can be translated into an accurate forecast.

The second is to examine the historical data in an observational study, and look for a correlation between dependent and independent variables that have occurred in the past. Like the experimental process, the greater the number of data points collected, the greater the certainty there is in the result. In both kinds of analysis, however, the reason there can be no forecast in absolute terms, with respect to any particular case, and why the prediction can be expressed only in terms of probability, is because not all elements affecting the outcome can be controlled; that is, there are

always certain causal factors that affect the result, of which we have no knowledge.⁶

Suppose out of a general population of 300,000,000 people, 500,000 died from a heart attack last year, and this result has been fairly consistent over time. In this case, we might conclude that the probability that a person has a deadly heart attack in any given year is one in six hundred out of a class that includes the entire population. Obviously, however, there is a wide variation in people's susceptibility to this disease. A more meaningful result can be obtained by grouping together individuals who have similar risk factors; for example, age, body mass index, smoking, family history of heart disease etc. The greater the proportion of non-random variables controlled in this way, the smaller is the class, and the more relevant is the probability with respect to the members of that class. In addition, accuracy is increased by ensuring the uncontrolled variables are as random as possible.^{7 8 9}

⁶ Mises (1998, 107) gives the definition of class probability as follows: «We know or assume to know, with regard to the problem concerned, everything about the behavior of a whole class of events or phenomena; but about the actual singular events or phenomena we know nothing but that they are elements of this class.» Strictly speaking, it is *not* true to say we know *everything* about the behavior of the whole class of events unless the uncontrolled factors are completely random, and this is not the case in many fields of scientific enquiry. However, for all practical purposes, it is true for dice throwing, coin tossing and the drawing of lottery tickets, etc.

⁷ Take the throwing of a dice. Provided the dice is not loaded — i.e. the density of the dice is uniform and the surfaces of the dice are the same — we can be sure with a very high degree of accuracy that the probability of throwing a certain number is one in six. This is because the controlled variables — e.g. density, surfaces etc. — are precisely the same on each throw of the dice. The other variables, which are not controlled — e.g. the trajectory the dice leaves the hand, the air currents affecting it as it flies through the air, the angle the dice hits the table, etc. — while not the same on each throw, are nevertheless (almost) totally random. This is why the probability of one in six is very accurate. We have a high degree of confidence in this probability. (The reason the forecast must be stated in terms of probability is because of the uncontrolled factors. If, hypothetically, we could know in advance *all* the factors on each throw, then it would be possible to forecast with certainty which side of the dice would land face up.)

⁸ The question becomes, are there any truly random events in the physical world? Cf. Quantum mechanics.

⁹ Paradoxically, as the class size becomes smaller, *fewer* data are available, which makes the result *less* accurate. This is because, with fewer samples, the uncontrolled factors are less random, which skews the overall result. The task is to control for as

Thus, for example, if the frequency of heart attacks is examined for the class of non-smoking women in their 50s, with a body mass index of 22, then this data will yield a more accurate probability of a heart attack for an individual within that class than the 1:600 figure cited earlier. If, hypothetically, we could control for all the causal factors, then there would be no need to express the prediction in terms of probability. The prediction would be (practically) certain for that person. However, this would require examining at least one past case that was identical in every possible respect to the one whose outcome we now try to predict. While this is possible in physics experiments, it is of course a practical impossibility when it comes to examining heart attacks and most other biological processes.

One further consideration is that if the uncontrolled factors become less random over time, or if new variables are introduced into the class that were not previously considered, then the previously established probabilities will be erroneous. Therefore, any intertemporal changes in the causal factors must always be guarded against.

Returning to the rational expectation theorists' claims, consider the factors affecting human action. All purposeful action requires thought as a prerequisite, which is an individual mental process. It consists, firstly, of acquiring objective knowledge, such as technological know-how, availability of resources, etc. And secondly, of using this knowledge in conjunction with a subjective assessment of the future based on personal experience and intuition, in order to formulate an «understanding.»¹⁰ It is this foresight that all actors employ, with varying degrees of success, in order to avoid error. In its most fundamental form, human error occurs when the actor judges his action *ex post* to involve a psychic loss. In catallactics, it occurs when a monetary loss is incurred by the entrepreneur. But in either case, the actor's expectations do not meet the consequent reality, because his foresight was lacking. «Understanding» or

many non-random factors as possible, leaving only those factors we assume to be (more-or-less) random in their effect, while at the same time maximizing the number of data points collected in the sample to increase this randomness.

¹⁰ Mises (1998) speaks in terms of «verstehen.»

foresight is therefore the critical factor that affects the success or failure of all human action.

If the probability of a particular kind of human error can be quantified, as the rational expectation theorists claim, then it is necessary to define the actions which are subject to this error, and which are not; it is necessary to define the class. But if one includes all possible actions in the class — analogous to considering the entire population for heart attacks in the previous example — then this creates insurmountable problems, because the range of human actions is almost limitless. With no causal factors controlled, the class is too broad to be of any use in explaining errors. More importantly, with an infinite sample size, there is no possible way to calculate a frequency. Frequency is meaningless in such a situation.

The only possible solution is to limit the class size. In which case, it is necessary to ask, is it possible to define a class, specifically of actions, by controlling for certain variables? What are the variables in the data that can be controlled, if any, and what are those that cannot? One notable difference between this endeavor and that undertaken in the natural sciences is that the only causal factor in this case is the actor's foresight. Certainly, exogenous events like earthquakes or changes in the availability of resources or fluctuations in consumer preferences can make apparent an error *ex post*, but this is not the cause of the error. Indeed, there are no external factors that can cause error. The cause is the faulty reasoning of the actor, because of his lack of knowledge and intuition. As the prerequisite for all human action, it is the only factor that can be responsible.¹¹

However, foresight is subjective and cannot be measured. It has no cardinal value. Which means, it is not a variable. We cannot say, for example, action A has x amount of foresight which leads to $n\%$ error, whereas action B has $2x$ the amount of foresight and has only $m\%$ errors. Therefore we must treat it as a factor without magnitude. However, every action is the product of a single thought process. Which means the actions that constitute the class cannot all

¹¹ It might seem strange that the actor errs in failing to predict an earthquake. But to the extent he failed to have this knowledge, it is *his* error. Error is a human quality. The earthquake cannot be held responsible.

be different, because then there would be no common factor and no common understanding; every action would be a class of one, for which frequency measurement is not possible. But this can only mean that all the actions within the class must be the same, having precisely the same thought behind each one of them. But how is it possible for any two actors to be thinking exactly the same thing, let alone all of them, together?

Rational expectation theorists respond that while every person's present knowledge and future expectations might differ initially, actors have the capacity to learn from one another, such that in time no new knowledge regarding future events can be discovered. The differences therefore evaporate until a kind of consensus — an equilibrium — is reached. Any mistakes are simply the result of «black-swan» events caused by exogenous shocks; random phenomena that are not the product of any human failure.

But even if it were possible for everyone's thought process to be exactly the same — which seems heroically unlikely — the exogenous data are constantly changing. This means that not only do actors refine their appraisements by learning from past errors, and from one another, but they do so with respect to the ever-changing external world they encounter. In the market, this means they adjust their forecasts constantly, and do so individually, to account for changes in available resources, technological knowledge, consumer preferences and the decisions of other entrepreneurs. Therefore, the critical factor which affects human action — understanding — is always evolving and changing. There is no equilibrium. Since the only causal factor of error is changing continuously, there is no possibility of establishing the class probability of any particular kind of error, or error in general.¹²

There are no constant relations governing variables in human action. Human beings think and choose. They are not mere

¹² Hoppe (1997, 56) addresses the failings of RE theorists in the following way: «Rational expectation theorists only replace the model of man as a never-failing automaton with that of a machine subject to random errors and breakdowns of known types and characteristics. Rather than possessing perfect knowledge of all singular (individual) actions, man is assumed to possess merely perfect knowledge of the probability distribution of all future classes of actions. He is assumed to commit forecasting errors, but his errors are always correct errors.»

automatons. Some who deny the existence of free will acknowledge the unpredictable element in human action, but maintain that this merely appears to be so not because people express genuine choices that transcend physical laws, but rather because decision making is subject to the rules of quantum mechanics. But even if it is conceded that at any given instant an individual «chooses» an action (or not) based on a mere quantum event in the brain, and that this «choice» is governed by a particular probability, how does this help the advocates of empiricism when we can never quantify that probability?

Even if one claims the law of large numbers must ultimately prevail, and therefore empirical methods can be used to predict the probability of future human events, this argument is untenable, for it employs the fallacy of composition. Even in a quantum world, the number of possible actions are virtually limitless; the «choice» for any individual is never merely yes or no; or heads or tails as in the toss of a coin. There exist an almost infinite number of possible «choices» based on the particular case. And while one particular course of action might be ruled more probable than another, there cannot exist a singular probability for the class when each individual's «choice» is based on the particular case. And therefore future trends in the macroeconomic sphere cannot be gleaned simply by an analysis of past events.

IV

WHY AUSTRIANS ESCHEW PREDICTION, AND YET TEND TO BE BETTER FORECASTERS

Why then do Austrian economists tend to fare better than their mainstream counterparts when it comes to economic forecasting, even though they eschew prediction qua economists? In contrast to the mainstream, the Austrian approach rejects empiricism and induction, and employs a methodology in which apodictic laws are deduced a priori. However, because all propositions deduced stem from the axiom of action, which is a self-evident truth based on inner experience, the laws are not merely tautological. On the contrary, they tell us something true about the real world; in

Kantian terms, they are synthetic a priori. And because they are deduced through a process of formal logic, they are absolutely true and never falsifiable.

In the social sciences, it is not possible to conduct a real experiment, in which all but the variables to be studied are held constant. But praxeology does indeed involve a kind of experiment — a thought experiment — in which all the variables are imagined to be constant initially, and then one or more are «altered» individually to analyze the result.¹³ This kind of deductive process produces hypothetical statements of the type «if A then B, *ceteris paribus*.» For example:

«If the demand schedule for a good decreases, then the price falls and the quantity demanded is less, *ceteris paribus*.»

«If the money stock increases, prices in general rise, *ceteris paribus*.»

«If a minimum wage is introduced or raised, then unemployment increases, *ceteris paribus*.»

«If the quantity of fiduciary media is increased, then market rates of interest fall, *ceteris paribus*.»¹⁴

One objection might be that in the real world, all other things are never equal. Suppose in the first case above, there is a simultaneous decrease in the supply schedule of the good, then the price might rise despite reduced demand. Or in the second example, if

¹³ As Mises (1998, 237) states, «The specific method of economics is the method of imaginary constructions.

«This method is the method of praxeology... It is a product of deduction, ultimately derived from the fundamental category of action, the act of preferring and setting aside. In designing such an imaginary construction the economist is not concerned with the question of whether or not it depicts the conditions of reality which he wants to analyze. Nor does he bother about the question of whether or not such a system as his imaginary construction posits could be conceived as really existent and in operation. Even imaginary constructions which are inconceivable, self-contradictory, or unrealizable can render useful, even indispensable services in the comprehension of reality, provided the economist knows how to use them properly.»

¹⁴ In these examples, under certain circumstances it is possible at the margin for there to be no change. This does not alter the thrust of the argument, however.

the reservation demand for money increases,¹⁵ then prices in general might fall even if the money stock increases. The minimum wage might have no effect and unemployment might actually fall if, at the same time, the demand for labor increases, or the supply decreases. And even if the quantity of fiduciary media increases, it is always possible for market rates to rise if there is a contemporaneous rise in time preference. All of this is of course true, which is why Austrians refrain from prediction in the first place.

Nevertheless, it is possible to say the following: In the first example, the price of the good will be lower than it would have been otherwise. Similarly, in the second case, prices-in-general will be higher than otherwise would have occurred. The minimum wage will cause more people to be unemployed than would have been the case had the minimum wage not been introduced. And when fiduciary media enter the loan market, interest rates will always be lower than the counterfactual circumstance.

Take the example of introducing a minimum wage. Suppose it were possible to conduct a real experiment in which all the factors that influence the demand for labor are held constant except the minimum wage, and suppose the result of this experiment demonstrates that this intervention in the market independently causes unemployment to rise by 10,000. Suppose another experiment is performed in which it is shown that a particular demographic change independently causes unemployment to fall by 4,000. If in the real world, these two events happen simultaneously, and nothing else impacts labor, then net unemployment must rise by 6,000. However, if the demographic change independently causes 12,000 fewer people to be unemployed, then unemployment will fall by 2,000 overall. But in all of these cases, unemployment must be higher than it would have been had the minimum wage not been introduced. It can never be lower than otherwise.

This provides some insight into why Austrian economists make fairly good forecasters. In the above example, while it is always possible for unemployment to fall overall, there must be some offsetting circumstance to cause it, which must have a greater (and

¹⁵ Or the stock of goods increases or the demand for goods decreases, or any combination of these.

opposite) impact than the event under consideration, in this case the minimum wage. And perhaps on a fairly regular basis, the chances of the intervening circumstance(s) completely offsetting the effects of the original event are fairly low.¹⁶

V

HYPOTHETICAL AND COUNTERFACTUAL PROPOSITIONS

The artificial construct alluded to earlier produces hypothetical laws of the kind, «if A then B, *ceteris paribus*.» And yet all such hypotheticals can be expressed in terms of a counterfactual statement. How is this so? First, it should be noted that artificial constructs can be applied to all aspects of human action. And more specifically, all economic laws are derived in this way. But with respect to any given law, the chain of reasoning always starts with the action axiom, and the A and the B always refer to events concerning changes to the various categories of action or their derivative economic variables: e.g. value, preference, profit/loss, demand, stock, supply, interest rate, price, etc. With regard to theory, the change is always relative — e.g. increase/decrease, more/less, greater/lesser, etc. However, in the real world the change has magnitude or rank with regard to the category implied by the cause, A, while with regard to the effect, B, it has magnitude.

And precisely because in the real world the change to the economic variable implied by B is quantifiable, it is necessarily the case that if two or more events affect it simultaneously, then the changes must be additive. Suppose two events, A and A', independently lead to B and B', and the latter each refer to a separate change in the variable β . While theory can determine these changes in relative terms only, in reality they have magnitude. Therefore, if B and B' occur at the same time, the changes to β , whether positive or negative, must be additive. The same is true when β is affected by other contemporaneous outcomes, B'', B''' etc., caused by A'', A''' etc. Which means that if the «*ceteris paribus*» in «if A then B» is

¹⁶ To put this another way: In terms of the statement «if A then B, *ceteris paribus*,» all other things are often fairly equal.

dropped, and B', B'', B''' etc. are allowed to enter the scene, then even if we have no knowledge of how they affect β , it is always the case that A independently causes the same absolute change to β as that implied by B. If this change is positive, β is necessarily higher than it would have been without the occurrence of A. And if the change is negative, then β is necessarily lower than it would otherwise have been.

From the above we can conclude that it is a general rule that all hypothetical propositions deduced from mental experiments concerning human action can be expressed in terms of counterfactuals. And the latter are extremely helpful in understanding real world conditions, and can even assist in making predictions, at least from the non-economist's standpoint!

Taking a contrary position, Hulsmann (2003, 89-93) contends that counterfactual and hypothetical statements, each have different origins. According to that author, counterfactuals have more relevance to the real world, precisely because they do not employ imaginary constructs. Says Hulsmann, *ceteris-paribus* propositions are less useful, because they are derived from mental experiments, and are merely hypothetical; they describe only «tendencies,» rather than precise changes, because they make the unrealistic assumption of «frozen data.»

But as can be seen from the foregoing argument, it is universally the case that the counterfactual is merely a restatement of the hypothetical, and both have their origins in the imaginary construction.

BIBLIOGRAPHICAL REFERENCES

- Corcoran, T. (2009): «Why Do We Have Economists? Whatever The Reason, It's Not For Their Abilities As Economic Forecasters»; <http://www.nationalpost.com/opinion/columnists/story.html?id=655fd957-7e38-4186-a7d6-3963c7c792b6>
- Friedman, M. (1953): «The Methodology of Positive Economics.» *Essays in Positive Economics*, Chicago: University of Chicago Press, pp. 3-43; <http://members.shaw.ca/compilerpress1/Anno%20Friedman%20Positive.htm>

- Hoppe, H. H. (1997): «On Certainty and Uncertainty, Or How Rational can our Expectations Be?» *Review of Austrian Economics* Vol. 10, Num. 1, pp. 49-78
- Hulsmann, J. G. (2003): «Facts and Counterfactuals in Economic Law.» *The Journal of Libertarian Studies*. Vol. 17, Num. 1, pp. 57-102; http://www.mises.org/journals/jls/17_1/17_1_3.pdf
- Mises, L. von (1998): *Human Action: A Treatise on Economics*. Ludwig von Mises Institute, Auburn, AL.
- Norman, M. (2003): «Dismal Science May Get a Little Sunnier,» Special to TheStreet.com, April 21.
- Thornton, M. N.d.a. «Mises vs. Fisher on Money, Method, and Prediction: The Case of the Great Depression.» <http://mises.org/journals/scholar/Thornton16.pdf>
- Thornton, M. (2008): «The Great Depression: Mises vs. Fisher,» *Quarterly Journal of Austrian Economics*, Vol. 11, Nos. 3&4 (December) pp. 230-241.
- Thornton, M. N.d.b. «Who Predicted the Bubble? Who Predicted the Crash?» <http://mises.org/journals/scholar/Thornton6.pdf>

TESTING ECONOMIC THEORY

CHRISTOPHER P. GUZELIAN

Fecha de recepción: 18 de abril de 2018

Fecha de aceptación: 15 de octubre de 2018

Two years ago, Bob Mulligan and I empirically tested whether the Bank of Amsterdam, a prototypical central bank, had caused a boom-bust cycle in the Amsterdam commodities markets in the 1780s owing to the bank's sudden initiation of low-fractional-reserve banking (Guzelian & Mulligan 2015).¹ Widespread criticism came quickly after we presented our data findings at that year's Austrian Economic Research Conference. Walter Block representatively responded: «as an Austrian, I maintain you cannot «test» apodictic theories, you can only illustrate them».²

Non-Austrian, so-called «empirical» economists typically have no problem with data-driven, inductive research. But Austrians have always objected strenuously on ontological and epistemological grounds that such studies do not produce real knowledge (Mises 1998, 113-115; Mises 2007). Camps of economists are talking past each other in respective uses of the words «testing» and «economic theory». There is a vital distinction between «testing» (1) an economic proposition, praxeologically derived, and (2) the *relevance* of an economic proposition, praxeologically derived. The

¹ A second paper provides additional support for the original paper's empirical conclusions, even after controlling for a concurrent Dutch war's effects. (Guzelian, Mulligan & Zelmanovitz 2018).

² In the same breath, Dr. Block helpfully sent me his bibliography (on file) of around twenty empirical articles on Austrian Business Cycle Theory.

* Assistant Professor, Department of Finance and Economics, Texas State University School of Business (guzelian@txstate.edu). The author thanks three anonymous peer reviewers for their remarks that strengthened this note. I thank Dr. Walter Block for a 2016 email dialogue in which he discussed this note's major thrust that relevance of apodictic principles might be empirically testable. That conversation motivated this note.

former is nonsensical; the latter may be necessary to acquire economic theory and knowledge. Clearing up this confusion is this note's goal.

Rothbard (1951) represents praxeology as the indispensable method for gaining economic knowledge. Starting with a Aristotelian/Misesian axiom «humans act» or a Hayekian axiom of «humans think», a voluminous collection of logico-deductive economic propositions («theorems») follows, including theorems as sophisticated and perhaps unintuitive as the one Mulligan and I examined: low-fractional-reserve banking causes economic cycles.

There is an ontological and epistemological analog between Austrian praxeology and mathematics. Much like praxeology, we «know» mathematics to be «true» because it is axiomatic and deductive. By starting with Peano Axioms, mathematicians are able by a long process of creative deduction, to establish the real number system, or that for the equation $a^n + b^n = c^n$, there are no integers a, b, c that satisfy the equation for any integer value of n greater than 2 (Fermat's Last Theorem).

But what do mathematicians mean when they then say they have mathematical knowledge, or that they have proven something «true»? Is there an infinite set of rational numbers floating somewhere in the physical universe? Naturally no. Mathematicians mean that they have discovered an apodictic truth — something unchangeably true without reference to physical reality because that truth is *a priori*.

When using mathematics in *physics*, there is then a necessary epistemological leap because physics involves measurements of and knowledge about the real universe. Thus, to move from the notional (mathematics) to the practical (physics) requires some bridge between apodictic mathematical propositions and theorems and humans' mathematical representations of physical reality. Philosopher John Foster in a well-regarded article explained this is done using a form of partial induction (Foster 1983).³

³ One of the criticisms of string theory is that it is purely a theoretical mathematical exercise that by the very conditions of the mathematics, admits no testable predictions about the universe. (Woit 2007).

Mises (1998, 17-18) similarly sought to bridge the divide between «two separate economic realms: the external world of physical, chemical, and physiological phenomena and the internal world of thought, feeling, valuation and purposeful action». He concluded that although someday science may locate the source of human action in a reductionist explanation of mental synapses and so forth,⁴ currently economists can regard only one thing as knowledge: human action, which he called the «Ultimate Given» — very much like Peano Axioms in mathematics. In other words, Mises regarded human action, the interplay between «external facts... [that] produce in a human mind definite thoughts and volitions resulting in concrete acts», as the apodictic beginning of all economic inquiry (Mises 1998, 17).

Mises also praised praxeology whose «statements and propositions are not derived from experience, [but] are like those of logic and mathematics, a priori» as the only method by which economic knowledge is gained. (1998, 30-32). Moreover, he specifically excluded from economics the use of empirical data, stating, «it is impossible to reform the sciences of human action according to the pattern of physics and the other natural sciences» (1998, 31). Mises contended the difference between physics and economics is that economics is non-repeating and non-experimental (apologies to Nobelist Vernon Smith), whereas physics is experimental and repeatable (*id.*). To Austrians, praxeology can «*explain*» particular historical data, but conversely, data cannot inform the truth or falsity of apodictic economic theorems/propositions, nor lead to the discovery of additional economic theorems. To Austrians, only praxeology produces economic theory and knowledge.⁵

The foregoing reasoning is why Austrians reflexively dismiss «testing economic theory». After all, how can one «test» what is

⁴ One Soviet-era Christian economist contended that such a scientific breakthrough will never happen because «Sophia» — the invisible Spirit of Knowledge and Wisdom — pervades both nature and mankind's internal life and is what alone enables human identification of truth. Bulgakov (2000).

⁵ Logician Kurt Gödel proved that within any formal system of mathematics, there are propositions that can be neither proven nor disproven. (Goldstein 2006). One might interestingly examine whether, in the realm of praxeology, corresponding economic theorems exist.

apodictic? One cannot. And if all «economic theory» is deductively derived and apodictic, how could it be wrong unless incorrectly deduced? Again, one can agree. It could not be wrong otherwise. But the conclusion that there is no appropriate empirical test for economic theory rests entirely on the false Misesian belief that there is no economic analog to the mapping of mathematics onto physics. Economics *does* offer a way of epistemologically spanning praxeological theorems (the apodictic «mathematics» of economics) to the real world of economic data (the empirical «physics» of economics). Economics does so by assessing *relevance*.

What empirical studies of relevance yield *is* economic theory, but it is not «economic theory» as Austrians understand. By «economic theory», Austrians usually mean the collective body of apodictic, deduced theorems starting with Mises's «human action» axiom. But as lawyers like myself (and a fair number of non-Austrian economists) describe «economic theory», it is more like what Mises called *Verstehen* («Understanding») — integrated knowledge that is in part deductive and in part a derivation of relevance. In a very real sense, it is more robust and «truer» knowledge than «theory» that either induction or deduction alone yields.

I have written more extensively about relevance elsewhere (Guzelian 2016) and will not recreate that article herein. However, in the box below are four characteristics about relevance that are true and noteworthy. Each is discussed in turn.

I

ECONOMICALLY IMPORTANT PRINCIPLES OF RELEVANCE

1. The bridge between economic theorems, praxeologically derived, and practical economic theory is *relevance*⁶

⁶ One anonymous reviewer commented about these four claims, and the first in particular, that:

«This is not an empirical statement that can be falsified with empirical testing; it is a synthetic a priori statement. Thus, an empiricist must argue it is not knowledge about the real world. ... The author wants to synthesize praxeology and empiricism, but this is impossible. Praxeology and empiricism are logically incompatible. One accepts and one rejects synthetic a priori knowledge. The author must

2. Scientific inquiries into relevance are usually best conducted quantitatively.
3. Relevance is not subjective, but not wholly objective, either. It is an amalgam of science and art.
4. Relevance has two aspects. One aspect is *specific* vs. *general* relevance. The other is *historical* vs. *future* relevance.

1. Relevance: The bridge between notional and historical reality. A correct judgment of relevance enables an economist to state whether a specific theorem (e.g. low-fractional-reserve

choose between praxeology and empiricism; there is no middle way. If he chooses empiricism, he must abandon his claims about relevance because they are not empirically falsifiable. If he chooses praxeology, his discussion of relevance is unnecessary».

The peer reviewer, however, is incorrect that these four statements about relevance are purely synthetic, *a priori* statements. They are gained through a blend of empirical experience and *a priori* thought, Foster (1983). To wit: imagine a child who does not introspectively realize it is relevant to self-preservation to avoid touching a hot stove. A parent can give the child a warning to jar his thinking. (The parents' warning may stem from personal empirical experience or introspection about how heat transfers, or both).

A child may disregard the parents' warning and touch the stove. If he does so enough times, then it is through painful empirical experience, *coupled with* introspective reasoning (that is: introspectively contemplating heat transfer), that a sense of the relevance of avoiding hot stoves to self-preservation is formed within him. If the child continues to think the proximity of his body to the heat of the stove is generally irrelevant to his well-being, would anyone claim otherwise that he is apt to lose a finger? If instead he finds keeping his fingers from a hot stove is generally relevant to self-preservation, would we not say that he may survive to adulthood? And do we not say that *wisdom* — that blend of empirical experience and introspection — is well-formed more commonly in adults than in children because there is a «better» sense of relevance about proximity to dangerous heat? Therefore, through partial induction Foster (1983), it is permissible *both empirically and introspectively* for us to say avoiding hot stoves is relevant to self-preservation.

All that the peer reviewer has done, then, is to create a *recursive* objection by saying that I have only introspectively derived «the relevance of relevance». I have shown through this example that there exists at least one circumstance — fingers and hot stoves — where relevance bridges the gap between introspection and empiricism. I did not use pure introspection to reach this conclusion, but also partial empirical induction (I have touched a hot stove at least once). The question then is: does my same understanding about relevance apply across all problems of relevance, or only to this one (i.e. hot stoves and staying alive)? I contend that, *both through introspection and empirical testing*, I have come to the conclusion that relevance is my *generally relevant* bridge between the synthetic and the empirical (see Principle #4).

banking causes boom-bust cycles) is not just «true» in the apodictic Austrian sense, but also that it is relevant to (in lawyers' language, a «proximate cause» in) the real world. Austrians are fond of saying that praxeology is the only method for «explaining» historical results (and there is decidedly ambiguity as to what the word «explains» means). But explanation is not the same as *knowledge*, or as *Understanding* («*Verstehen*»). And ultimately, economic theory is not built on «explanation», but on «relevance» and, consequently, «knowledge». As Guzelian & Mulligan (2015) notes,

«Per Mises, consider the following: an Austrian and a non-Austrian each look at historical data of price fluctuations in countries that fractional-reserve banked stretching back to time immemorial. The Austrian may point to price fluctuations and emphasize the *primacy* of fractional-reserve banking's effects in each case and that imperfect goods-market arbitrage (also a true cause, per praxeology) was often only a *de minimis* contributory force, if anything. Conversely, the non-Austrian may accentuate imperfect arbitrage and not even mention fractional-reserve banking, being ignorant of its existence or considering it of inconsequence (see e.g., Rogoff, Froot, & Kim 2001). And Mises himself contends there is no way to sort out which story is the better one. One can legitimately question (and, per Mises, such scrutiny supposedly cannot be objectively dismissed) the *primacy of relevance*. [An] Austrian [h]ypothesis, although praxeologically true, may have only tertiary or quaternary empirical relevance, and perhaps not even be worthy of mention, being only a comparatively weak force behind real historical business cycles, rather than the «root cause» (Hülsmann 2000).»

Examining relevance enables a deeper grasp of «truth» than Austrians regard, because it has tested whether a theorem has *primacy of effect* in the real world. It is only by an additional test of relevance, not praxeology alone, that one can assess correctly whether «the Bank of Amsterdam caused an Amsterdam commodity price boom-bust cycle in the 1780s by steeply lowering its fractional-reserve» is true. Said in a folksy way, praxeology provides the economic streetlights that illuminate dark paths at night, but only by

also contemplating relevance may one learn whether there were precious coins under one or more particular streetlights.

One other thing to consider, left unresolved here, is that Austrians believe that all praxeologically derived theorems, however far removed in the chain of logico-deduction from the «Ultimate Given» of human action, are always and everywhere operative (Mises 1998, 36). But others caution that such a claim may exceed its metaphysical warrant. Nobelist Ronald «Coase believe[d] that long chains of deductive reasoning have a tendency to reduce the linkage between theory and reality, and that the import of deductive analysis lies in the construction of short connecting chains of reasoning between inductive insights» (Medema 2012, 226). At present, it seems unclear whether the matter is objectively answerable. Others should think about what consequences apodictic theorems' «deductive distance» from human action has for achieving correct practical economic theory.

2. Relevance is often best described quantitatively. Causal relevance can be expressed qualitatively or quantitatively. One may say, «drinking vodka last evening caused my headache» (qualitative relevance). But quantitative analysis provides greater precision and accuracy about the relevance of the purported cause (vodka) to the effect (headache). Determining the amount of vodka consumed and the time elapsed between drinking and start of the headache, among other factors, can tighten confidence that the vodka was, in fact, a primarily relevant cause of the headache. In contrast, if the drinker took only the tiniest sip of vodka, then the possibility that an unrelated migraine started after drinking may become a much more relevant inquiry.

3. Relevance: Subjective, Objective...or both? Mises (1998) only slightly acknowledged the potential of relevance to move economics beyond apodictic praxeology towards practical epistemic knowledge (*Verstehen*) by integrating theory and reality. However, he dismissed relevance as economics' analog to physics, apparently because he believed it impossible to get universal scientific consensus about how to judge relevance:

«[T]here necessarily enters into [economic] understanding [*Verstehen*] an element of subjectivity. ... Two historians ... may fully agree in establishing that the factors *a*, *b*, and *c* worked together in producing the effect *P*; nonetheless they can widely disagree with regard to the relevance of the respective contributions of *a*, *b*, and *c* to the final outcome. ... [T]hese are not judgments of value, they do not express preferences of the historian. They are judgments of relevance. ... [A]s far as historians disagree with regard to judgments of relevance it is impossible to find a solution which [sic] all sane men must accept» (Mises 1998, 57-58).

Mises trod on too thin a metaphysical ice. First, if the criterion of relevance is that all sane economists must accept a judgment about relevance (and the resulting economic theory) for the theory to be true, then Mises fell into the same «consensus science» trap that often plagues the physical sciences. Among many, Crichton (2003) forcefully denounces the substitution of consensus for science:

«I want to ... talk about this notion of consensus, and the rise of what has been called consensus science. I regard consensus science as an extremely pernicious development that ought to be stopped cold in its tracks. Historically, the claim of consensus has been the first refuge of scoundrels; it is a way to avoid debate by claiming that the matter is already settled. Whenever you hear the consensus of scientists agrees on something or other, reach for your wallet, because you're being had. Let's be clear: the work of science has nothing whatever to do with consensus. Consensus is the business of politics. Science, on the contrary, requires only one investigator who happens to be right, which means that he or she has results that are verifiable by reference to the real world. ... There is no such thing as consensus science. If it's consensus, it isn't science. If it's science, it isn't consensus. Period».

But what if by Mises' oblique hat tip to the futility of judging relevance, he merely meant that there is no consistency among researchers as to the appropriate *method* by which to test relevance in the real world, particularly because unlike the physical sciences, history is non-repeating? That is, that relevance is entirely *subjective* because the selection of a methodology for judging relevance

is arbitrary. If relevance is entirely a subjective inquiry, the chasm between praxeology and practical economic theory is not scientifically spanned, or so this logic goes.

Of course, there are frequent methodological debates in economics. Indeed, Guzelian & Mulligan (2015) suffered multiple rejections under peer review because numerous reviewers felt that our use of fractal Hurst exponents to calculate Amsterdam commodity price volatility in place of traditional ANOVA analysis was «unfamiliar», or, to the epistemologically more daring reviewers, «wrong». But it does not automatically follow from the facts that there are methodological debates and camps of economists that there are not objective, right answers to relevance. Guzelian (2016) sets out a compelling argument that relevance can attain a quasi-objective status. Also, one should not overlook the good work of causality theorist Mario Bunge. Testing relevance is part science, part art. «The best grasp of reality is not obtained by respecting fact and avoiding fiction but by vexing fact and controlling fiction» (Bunge 1979, 129).

4. Specific relevance/General relevance; Historical/Future Relevance.

The relevance of an apodictic theorem (e.g. low-fractional-reserve banking causes economic cycles) is always, in the first instance, for a *specific* historical case with *specific* historical data. We chose the Bank of Amsterdam and Amsterdam commodity prices in the 1780s. Conceivably, we might have instead picked the Bank of Venice in 1590, the Hamburg Reichsbank in the 1870s, et cetera.

If enough singular cases of relevance exist, one might start to infer that a praxeological theorem has *general* relevance in the real world. For instance, Hazlitt (1965) states the praxeological proposition that budget deficits can indirectly cause inflation. Bernholz (2015) identified 29 worldwide cases of hyperinflation since Roman times, and in sifting through the data, found that at least 25 of those times were preceded by substantial government budget deficits. Can we say that because the apodictic proposition held in 25 of all 29 specific hyperinflations, it is valid *general* economic theory? Or would it have to have occurred unswervingly all 29 times?

Would 21 times be sufficient? Making the call that an economic proposition is generally relevant is a somewhat arbitrary practice.

Testing relevance is usually an historical process. It relies on past data to make an assessment about whether an economic phenomenon has occurred. Sometimes relevance can be predictive and future-oriented. But we will not know whether an economic theory, if generally relevant historically, will hold in the next future circumstance until it occurs, although we may *perhaps* justifiably presume it will. (Foster 1983).

CONCLUSION

To our critics: Guzelian & Mulligan (2015; 2018) appropriately «tested economic theory». We did not test praxeological theorems. We tested one theorem's specific, historical relevance using the most correct empirical method available and thereby produced economic theory. Hopefully this note by a lawyer who knows more about relevance than economics does not further confuse economists about what they are doing.

BIBLIOGRAPHICAL REFERENCES

- Bernholz, P. (2015): *Monetary Regimes and Inflation: History, Economic and Political Relationships, Second Edition*. Cheltenham, UK, and Northampton, MA, Edward Elgar Publishing.
- Bulgakov, S. (2000): *The philosophy of economy: The world as household*. New Haven, CT, Yale University Press.
- Bunge, M. (1979): *Causality and Modern Science, Third Edition*. Mineola, NY, Dover Publications.
- Crichton, M. (2003): «Aliens Cause Global Warming». Lecture at California Institute of Technology.
- Foster, J. (1983): «Induction, Explanation and Natural Necessity», *Proceed. Aristotelian Society*. 83: 87-100.
- Goldstein, R. (2006): *Incompleteness: The Proof and Paradox of Kurt Gödel*. New York, NY, W.W. Norton & Company.

- Guzelian, C.P. (2016): «Relevance», *Charleston Law Review* 10 (1): 157-169.
- Guzelian, C.P.; Mulligan, R.F. & Zelmanovitz, L. (2018): «The Wisselbank & Dutch Wars: Distinguishing the Effects of Fractional-reserve Banking and War on Historical Economic Cycles». Working paper.
- Guzelian, C.P. & Mulligan, R.F. (2015): «The Wisselbank and Amsterdam Price Volatility: A Fractal Test of the Austrian Fractional-Reserve Banking Hypothesis», *Procesos de Mercado* 12 (2): 13-42.
- Hazlitt, H. (1965): *What You Should Know About Inflation*. Princeton, N.J.: D. Van Nostrand Co.
- Hülsmann, J.G. (2000): «A New Treatise on Money and Banking», *Quarterly Journal of Austrian Economics* 3(2), 85-88.
- Medema, S.G. (2012): *Coasean Economics: Law and Economics and the New Institutional Economics*. Springer Science & Business Media.
- Mises, L. (2007): *Theory & History*. Auburn, AL: Ludwig von Mises Institute.
- (1998): *Human Action*. Auburn, AL: Ludwig von Mises Institute.
- Rogoff, K.; Froot, K.A. & Kim, M. (2001): «The Law of One Price Over 700 Years», IMF Working Paper.
- Rothbard, M.N. (1951): «Praxeology: A Reply to Mr. Schuller», *American Economic Review* 41 (5): 943-46.
- Woit, P. (2007): *Not Even Wrong: The Failure of String Theory and the Search For Unity in Physical Law*. Basic Books.

LA ESCUELA AUSTRÍACA Y LA ESCUELA DE CHICAGO: UN ANÁLISIS COMPARATIVO DE SUS FUNDAMENTOS Y PROPUESTAS

*The austrian school and the chicago
school: a comparative analysis of their
fundamentals and proposals*

MIGUEL ÁNGEL ECHARTE FERNÁNDEZ*

Fecha de recepción: 25 de mayo de 2018

Fecha de aceptación: 15 de octubre de 2018

I

INTRODUCCIÓN: OBJETIVOS Y METODOLOGÍA DE LA INVESTIGACIÓN

Las ciencias de la acción humana difieren en el objeto de estudio con las ciencias naturales. La economía, por ejemplo, estudia los procesos de cooperación social que se generan en el mercado y para poder comprender estos fenómenos se necesita de una teoría previa— el método de investigación es apriorístico-deductivo—. Esto hace que existan varias escuelas de pensamiento en el área de las ciencias sociales en contraste con las ciencias naturales donde hay un cierto consenso en cuanto a una serie de leyes fundamentales. Así, en economía podemos encontrar muchas escuelas de pensamiento (Escuela de Chicago, Teóricos Keynesianos, Escuela Historicista Alemana, Marxistas, Escuela Austríaca, Escuela Neoclásica, Escuela Institucionalista, etc.) y cada una de ellas se puede

* Doctor en Economía por la Universidad Rey Juan Carlos. Profesor de la Universidad Católica de Ávila.

clasificar entre otras cosas según su grado de defensa de la economía de libre mercado. Así, las escuelas menos orientadas hacia este sistema y que defienden un mayor grado de intervencionismo estatal serían el marxismo, el keynesianismo, el historicismo y el institucionalismo mientras que la Escuela de Chicago y la austríaca critican la intervención estatal y son partidarios en general de la economía de mercado.

El objetivo de este artículo es analizar estas dos escuelas de pensamiento económico defensoras del libre mercado señalando sus coincidencias y principales diferencias. La metodología de la investigación se basa en el estudio de fuentes primarias que corresponde a los principales textos académicos de sus autores más importantes.

II

LA GENEALOGÍA DE LAS DOS ESCUELAS DE PENSAMIENTO ECONÓMICO Y SUS PRINCIPALES APORTACIONES A LA CIENCIA ECONÓMICA.

1. La escuela austríaca de economía

La Escuela Austríaca de economía surge con las aportaciones de Carl Menger (1840-1921) especialmente con su obra *Principios de Economía Política* (1871) que plantea una teoría del valor basada en las apreciaciones subjetivas de los agentes económicos y que generó, junto con las contribuciones de Léon Walras y Stanley Jevons, una revolución marginalista en la ciencia económica. La «ley de la utilidad marginal» soluciona la paradoja del valor que plantearon los economistas clásicos con la siguiente pregunta: ¿Por qué el oro tiene mayor valor de cambio que el pan o el agua si su utilidad es menor?, al indicar que las elecciones no se basan en la utilidad total de los bienes sino en la de unidades incrementales y siendo normalmente el oro más escaso el valor de cada unidad aislada de oro es mayor que el de cada unidad aislada de pan. Esta teoría ponía de manifiesto el error de la teoría del valor objetivo defendida por la escuela clásica anglosajona (Smith, A, David

Ricardo, etc.) cuyo corolario fue la teoría de la explotación marxista. Menger también planteaba que las leyes económicas son de aplicación universal lo que le enfrentó con la Escuela Historicista Alemana que entendía que no había una teoría económica apodíctica. Otra contribución de gran importancia de Menger es haber desarrollado una teoría evolutiva de las instituciones especialmente en relación con el dinero, aunque se puede aplicar al campo del lenguaje, la familia, el derecho, la moral, etc. En su artículo «El origen del dinero» (1892) señala que el surgimiento de los medios de intercambio es espontáneo y no una creación deliberada del gobierno.

El principal discípulo de Menger fue Eugen Böhm-Bawerk (1851-1914) y su contribución más importante es haber elaborado una teoría subjetiva del capital que explica la importancia del ahorro y la inversión para aumentar la productividad de los procesos productivos. Su obra más relevante al respecto es *Kapital und Kapitalzins* (1884) donde explica que el interés surge de la preferencia temporal de las personas y que la producción es un conjunto de etapas sucesivas que conllevan tiempo. Böhm-Bawerk también refutó la teoría de la explotación marxista en el ensayo «Karl Marx and the Close of His System» (1896) al destacar que hay muchos bienes económicos cuya obtención no suponen trabajo alguno como los recursos naturales y que los teóricos marxistas desconocían la ley de la preferencia temporal al pensar que el capitalista extrae una plusvalía de los trabajadores sin darse cuenta de que el salario tiende a estar es función del valor descontado de la productividad marginal. El capitalista es aquel agente económico que ahorra y adelanta bienes presentes en forma de salarios a los trabajadores con la expectativa de vender la producción en un futuro más lejano y hacerse con un beneficio empresarial (Huerta de Soto 2011).

Otro teórico importante es Friedrich von Wieser (1851-1926) especialmente por el desarrollo del concepto de «coste de oportunidad», entendido como el valor subjetivo de las alternativas a las que se renuncian al emprender un curso de acción determinado.

Ludwig von Mises (1881-1973) perteneció a la segunda generación de economistas de la escuela austríaca. La importancia de la obra de Mises reside en haber desarrollado una teoría monetaria

de los ciclos económicos en su libro *La teoría del dinero y el crédito* (1912) en la que combina la teoría monetaria de la *Currency School*, la teoría de Knut Wicksell (1851-1926) sobre los tipos de interés y la teoría del capital de Böhm-Bawerk. El ciclo económico se produce cuando los bancos centrales reducen artificialmente las tasas de interés generando un proceso de expansión crediticia que hace que los empresarios inicien proyectos de inversión en etapas alejadas del bien final de consumo sin que exista el correspondiente volumen de ahorro para poderlos culminar lo que hará que la fase de expansión termine en una crisis económica y financiera. Además, Mises planteó la imposibilidad del cálculo económico en los países socialistas en su artículo «El cálculo económico en el Sistema Socialista» (1920) que generó un gran debate con autores como Oskar Lange. Su obra más importante es *La Acción Humana* (1949), un tratado sistemático donde expone en profundidad toda su teoría económica. Algunos autores incluyen a Joseph A. Shumpeter (1883-1950) dentro de la misma generación de la escuela austríaca. Shumpeter es conocido por su concepto de «destrucción creativa» propia de la economía capitalista y por destacar el papel de la innovación en el desarrollo económico, pero no es propiamente un autor que pertenezca a la línea de pensamiento de la Escuela Austríaca.

El principal discípulo de Mises fue Friedrich Hayek (1899-1992) que realizó contribuciones en muchas disciplinas científicas (psicología, derecho, filosofía política, etc.) En el ámbito de la economía destaca su teoría monetaria del ciclo económico reflejada en su libro *Precios y Producción* (1931) y en el área del derecho sus obras *Los fundamentos de la libertad* (1960) y *Derecho, legislación y libertad* (1973). Hayek entendió el peligro del colectivismo y la planificación central como muestra su obra *Camino de servidumbre* (1944), una de las obras más importantes de la filosofía política liberal. Otro hecho de gran importancia es el debate que tuvo con John Maynard Keynes (1883-1946) durante varias décadas acerca del origen de la crisis y las propuestas de recuperación económica (Wapshott 2013).

La tercera generación de la escuela está representada por autores como Murray Rothbard (1926-1995), Fritz Machlup, Israel Kirzner y Ludwig Lachmann. Rothbard fue discípulo de Mises y

escribió muchos libros durante su carrera. En *Man, Economy and State* (1962) se plantea una reelaboración de la magna obra de Mises *La acción humana* consiguiendo un tratado sistemático de economía. Rothbard también fue de los primeros autores en proponer en modelo de sociedad sin estado donde todos los servicios los prestaran agencias privadas en libre competencia (anarco-capitalismo). Las obras donde realiza este planteamiento son *Hacia una Nueva Libertad* (1973) y *La ética de la libertad* (1982).

El profesor Kirzner destaca por sus estudios sobre la ética del capitalismo, la función empresarial y la teoría del conocimiento y su obra más importante es *Discovery, Capitalism and Distributive Justice* (1989). Ludwig Lachmann (1906-1990) es conocido por señalar la importancia del subjetivismo y la heterogeneidad del capital.

En la actualidad los principales autores dentro de la escuela son el profesor Jesús Huerta de Soto, Hans-Hermann Hoppe —profesor emérito de la Universidad de Nevada—, Roger Garrison, Walter Block y Jörg Guido Hülsmann.

Roger Garrison destaca por utilizar la metodología neoclásica y el uso de las matemáticas para explicar la teoría austríaca del ciclo en su libro *Tiempo y dinero: la macroeconomía de la estructura del capital* (2005). Huerta de Soto es el máximo representante de habla hispana de la escuela y su obra más importante es *Dinero, crédito bancario y ciclos económicos* (1998) donde analiza la teoría monetaria de los ciclos y realiza una propuesta de reforma bancaria basada en el establecimiento de un coeficiente bancario del 100%, la eliminación del banco central y la libertad monetaria, con una transición basada en el retorno al patrón oro clásico. El profesor Hoppe ha continuado la investigación de Rothbard sobre el anarco-capitalismo y en su libro *Democracy: The God That Failed* (2001) plantea que en términos relativos la monarquía es preferible a la democracia pues en el primer sistema el rey, al ser propietario del territorio que gobierna, tiene una preferencia temporal más baja que el presidente de un gobierno de elección pública. Por otra parte, Walter Block en *Defendiendo lo indefendible* (1976) señala la moralidad de ciertos trabajos considerados indignos como la prostitución, el narcotráfico, la especulación, etc, y en su libro *The Privatization of Roads and Highways: Human and Economic Factors* (2006) plantea cómo funcionaría un sistema de carreteras completamente privado.

ÁRBOL GENEALÓGICO DE LA ESCUELA AUSTRIACA



Carl Menger (1840-1921)



Eugen von Böhm-Bawerk (1851-1914)



Friedrich von Wieser (1851-1926)



Joseph A. Schumpeter (1883-1950)



Ludwig von Mises (1881-1973)



Gottfried von Haberler (1900-1995)



Fritz Machlup (1902-1983)



Friedrich Hayek (1889-1992)



Ludwig Lachmann (1906-1990)



Israel Kirzner (1930-)



Murray Rothbard (1926-1995)



Walter Block (1941-)



Hans-Hermann Hoppe (1949-)



Roger Garrison (1944-)



Jörg Guido Hülsmann (1966-)



Jesús Huerta de Soto (1956-)

2. La escuela de Chicago

La escuela de Chicago de economía¹ surge entre los años treinta y cincuenta de la pasada centuria en plena Gran Depresión norteamericana. Durante esos años se produjo un giro hacia la planificación central en los EEUU especialmente con la adopción del *New Deal* de F.D. Roosevelt que fue un programa basado en el aumento del gasto público, las medidas proteccionistas y las subidas salariales por encima de la productividad (Skousen, M). La primera generación de la escuela —The good old Chicago School— está representada por autores como Frank Knight, Jacob Viner, Henry Simons, Lloyd Mints o Paul Douglas. En general eran economistas favorables al libre mercado, seguidores de las teorías de Adam Smith y de la escuela clásica. Estos académicos consideraban que el mercado libre presenta fallos pero que la intervención del gobierno las supera, un planteamiento que sería recogido más tarde por la Escuela de la Elección Pública (*Public Choice School*) de Gordon Tullock y James Buchanan.

El líder de la primera generación fue Frank Knight (1885-1972). Knight fundó en 1947 junto con Friedrich Hayek la sociedad Mont Pelerin² y su obra más importante es *Risk, uncertainty and profit* (1921) en la que determina la diferencia entre riesgo e incertidumbre. El riesgo consiste en establecer la probabilidad de la existencia de un hecho futuro mientras que la incertidumbre implica el desconocimiento total de lo que va a acontecer. También es conocido por haber desarrollado la idea del flujo circular de la renta (Wheel of Wealth) que hoy se estudia en los principales manuales de economía. Aunque durante muchos años fue un crítico del modelo keynesiano del *New Deal* desconfiaba también del libre mercado y se opuso a la concentración empresarial.

¹ La Universidad de Chicago fue fundada en 1890 por el magnate petrolero John D. Rockefeller y dentro de ella destacan otras escuelas de Chicago en diferentes áreas del conocimiento como la arquitectura o la sociología.

² Esta sociedad tenía como objetivo la difusión de las ideas liberales tras la Segunda Guerra Mundial. En un principio la sociedad se iba a llamar de Acton- Toqueville Society pero Frank Knight se opuso porque esos pensadores eran católicos y muchos de los miembros eran protestantes.

Jacob Viner (1892-1970) fue un liberal clásico que pensaba que el análisis económico debía estar respaldado en evidencia empírica. Al igual que Knight era opuesto al keynesianismo que en esos años era la tendencia dominante en los círculos académicos. El método académico de Viner sería el que caracterizaría posteriormente a la escuela de Chicago hasta el punto de que Friedman llamó a su enfoque «the distinctive feature of Chicago economics».

Henry Simons (1899-1946) fue profesor de la escuela de Derecho y Economía y su obra más importante es *Economic Policy for a Free Society* (1948) donde curiosamente propone restringir los monopolios que se originasen libremente en el mercado, nacionalizar el sistema de ferrocarriles y defiende la creación de un impuesto progresivo sobre la renta. Simons era partidario de las reglas sobre la discrecionalidad en la política monetaria y al igual que Irving Fisher y Milton Friedman defendió un encaje del 100% para los depósitos bancarios (Huerta de Soto 2011).

A comienzos de los años treinta Knight, Viner y Simons defendieron el déficit fiscal para hacer frente al desempleo y la deflación durante la Gran Depresión e incluso Viner propuso una política fiscal contra cíclica para acumular superávit en tiempos de expansión económica y déficit en tiempos de crisis, una idea proto-keynesiana (Skousen 2005). Según Milton Friedman: «There is great similarity between the views expressed by Simons and by Keynes as to the causes of the Great Depression, the impotence of monetary policy, and the need to rely on fiscal policy» (Davis 1968)

La segunda generación de la escuela está conformada por autores como Aaron Director, George Stigler, Gary Becker y Milton Friedman, su máximo exponente. Eran economistas neoclásicos influidos por Alfred Marshall y defensores del positivismo y el utilitarismo y con un componente técnico mayor que la primera generación (Skousen 2005).

Aaron Director (1901-2004) fundó el Free Market Projects, un proyecto para realizar estudios sobre las regulaciones del Mercado — análisis del salario mínimo, control de alquileres, etc — iniciando el análisis económico del derecho —Law and Economics— disciplina de la que sería un gran exponente Ronald Coase.

Milton Friedman (1912-2006) es sin duda el economista más influyente de la escuela y obtuvo el premio Nobel de economía en

1976. En el ámbito de la metodología destacó por su defensa de la economía positiva, desprovista de ética o juicios de valor. Friedman fue un gran divulgador de los principios del libre mercado en obras como *Free to Choose* (1980) y desarrolló la teoría monetarista basada en la idea de fijar reglas de crecimiento monetario para el banco central. Friedman pensaba que la Gran Depresión se debió a los errores de política monetaria de la Fed en los años treinta por no inyectar la suficiente liquidez en el mercado. Esta idea la defiende con datos empíricos en su libro con Anna Schwartz *A Monetary History of the United States 1867-1960* (1963). Friedman compartía con Keynes la metodología de utilizar agregados macroeconómicos pero el economista inglés se centraba más en la importancia de la política fiscal mientras que Friedman daba más importancia a la política monetaria.

George Stigler (1911-1991) partía del supuesto de que las personas se comportan racionalmente y centró su investigación en el análisis de los efectos negativos de la regulación de los mercados y en la economía de la información.

Ronald Coase (1910-2013) ganó el premio Nobel en 1991 por dos artículos muy importantes: «The Nature of the Firm» (1937) y «The Problem of Social Cost» (1960) que dieron impulso a la disciplina del análisis económico del derecho. En el primer artículo analiza porqué existen las empresas y cuál es el tamaño óptimo de las mismas. En el segundo artículo se analizan las externalidades negativas que surgen cuando se generan costes externos sobre agentes que no participan en una determinada operación (polución del aire, contaminación de un río, etc.) De acuerdo con Arthur C. Pigou la solución sería establecer impuestos a los productores para reducir la producción. Sin embargo, Coase plantea que, si no hay costes de transacción o son reducidos y se definen adecuadamente los derechos de propiedad, los agentes económicos llegarían a un acuerdo para internalizar los costes sin necesidad de que intervenga el estado.

Gary Becker (1930-2014), premio Nobel en 1992, aplica al análisis económico racional a otros campos como la discriminación, la economía del crimen, la economía del matrimonio, etc. Sus obras más importantes son: *The economics of Discrimination* (1957), *The*

Economic Approach to Human Behavior (1976) y *A Treatise on the Family* (1981).

Aunque la mayoría de los académicos de Chicago defienden el libre mercado no todos sus profesores son liberales. Un ejemplo de ello es Thorstein Veblen (1857-1929) que era institucionalista y socialista. Oskar Lange (1904-1965) también fue profesor en la universidad de Chicago y es conocido por defender el sistema marxista contra los argumentos presentados por el profesor austriaco Ludwig von Mises. Otros casos son el de Paul Douglas (1892-1976) que era un activista social y Paul Samuelson (1915-2009), que fue estudiante en Chicago durante los años treinta, pero se inclinó hacia las teorías keynesianas (Skousen 2005). En los últimos años el departamento de economía de Chicago es responsable del surgimiento de nuevas escuelas de pensamiento y, como hemos señalado, de la ampliación del ámbito de estudio de la economía hasta el punto de que algunos autores califican este proceso como «The Imperialism of the Chicago School» (Skousen 2005). Una de las nuevas corrientes es la *Escuela de las Expectativas Racionales* de Robert Lucas que se basa en la idea de que los agentes económicos son racionales y anticipan las decisiones de las autoridades por lo que ponen en duda la influencia de la política monetaria de los bancos centrales entre otras políticas públicas.

Entre los últimos ganadores del Nobel dentro de esta escuela destacan: Rober Fogel (1926-2013) que utilizó datos empíricos en *Los ferrocarriles y el crecimiento económico norteamericano* (1964) para mostrar que el ferrocarril no tuvo una importancia determinante en el desarrollo de EE.UU e intentó demostrar que la esclavitud era una institución eficiente en *Tiempo en la cruz. La economía esclavista de los Estados Unidos* (1974), James Heckman por sus trabajos en econometría, Eugene Fama por su teoría de los precios de los activos financieros y Richard Thaler por su aportación a las finanzas conductuales (Skousen 2005).

ÁRBOL GENEALÓGICO DE LA ESCUELA DE CHICAGO



Paul Douglas
(1892-1976)



Jacob Viner
(1892-1970)



Frank Knight
(1885-1972)



Henry Simons
(1899-1946)



Lloyd Mints
(1888-1989)



Aaron Director
(1901-2004)



George Stigler
(1911-1991)



Milton Friedman
(1912-2006)



Gary Becker
(1930-2014)



Ronald Coase
(1910-2013)



Robert Fogel
(1926-2013)



Robert Lucas
(1937-)



James Heckman
(1944-)



Eugene Fama
(1939-)



Richard Thaler
(1945-)

3. Principales puntos en común y contribuciones a la causa de la libertad económica.

Ambas escuelas son defensoras de un orden de libre mercado basado en la propiedad privada de los medios de producción, el libre comercio y la globalización económica y se oponen al sistema de economía socialista basado en la planificación central (Skousen 2005). En el ámbito de las políticas públicas critican el intervencionismo en diferentes áreas (controles de precios y salarios — incluyendo las leyes de salario mínimo, controles de cambio, etc.) Las dos escuelas defienden un gobierno limitado a la defensa de la propiedad privada y a otras funciones básicas como la defensa nacional y la justicia (minarquismo) aunque dentro de ambas escuelas hay autores anarco-capitalistas como David Friedman de la Escuela de Chicago o Murray Rothbard, Hans-Hermann Hoppe, Walter Block y Jesús Huerta de Soto dentro de la Escuela Austríaca—. El compromiso con la libertad es mayor dentro de la Escuela Austríaca pues hay muchos académicos de Chicago que proponen la intervención estatal en muchas áreas.

Las dos escuelas se oponen al déficit público, la fiscalidad progresiva y el estado del bienestar, aunque lo hacen en distinto grado pues como vimos la primera generación de Chicago defendió estas políticas en el contexto de la Gran Depresión (Skousen 2005).

En cuanto a las contribuciones a la libertad económica ambas escuelas han realizado aportes importantes. La Escuela Austríaca puso de manifiesto las inconsistencias de la teoría marxista del valor y la imposibilidad del cálculo económico en el socialismo. De acuerdo con Ludwig von Mises el socialismo no puede funcionar porque no existen precios de mercado que orienten las decisiones económicas de forma racional y según el artículo «The Use of Knowledge in Society» (1945) de Friedrich Hayek el órgano de planificación central no puede hacerse con la información necesaria para coordinar la sociedad debido al carácter tácito, subjetivo y no articulable del conocimiento empresarial. Los acontecimientos vinieron a dar la razón a estos autores tras el desmoronamiento del campo socialista a partir de 1989 y el fracaso de las economías centralizadas en todo el planeta.

Por otro lado, la Escuela de Chicago hizo frente al keynesianismo a finales de los años setenta cuando el proceso de estanflación (crisis con inflación) estaba afectando a las principales economías occidentales durante la llamada «crisis del petróleo». La teoría keynesiana se basaba en el *trade-off* entre inflación y desempleo ya que según la conocida «curva de Philips» existía una relación inversa entre ambas variables. Sin embargo, Friedman recopiló evidencia empírica que mostraba que la curva de Philips tenía pendiente vertical en el largo plazo debido a las expectativas adaptativas de los agentes económicos (Ravier 2010).

Las ideas de la Escuela de Chicago influyen en la actualidad en muchas organizaciones como la Fed, el FMI o el banco mundial pues utilizan el enfoque agregado y empírico para sus estudios y en el ámbito monetario la «ecuación de intercambio monetarista» sigue siendo la referencia para analizar los efectos sobre el nivel general de precios (Huerta de Soto 2011). Además, las propuestas de Chicago influyeron en el diseño de políticas públicas en muchos países y especialmente en Chile durante la dictadura del general Pinochet. Los «Chicago Boys» fueron una serie de académicos chilenos formados por esta escuela que llevaron a cabo las reformas liberalizadoras que harían de Chile el país más próspero de la región.

Dentro de cada escuela hay autores galardonados con el premio Nobel de economía, aunque en este ámbito la Escuela de Chicago — Milton Friedman (1976), George Stigler (1982), Ronald Coase (1991), Gary Becker (1992), etc.— sobrepasa con mucho a la Escuela Austríaca cuyo único premiado ha sido Friedrich Hayek en 1974 por sus contribuciones a la teoría monetaria de los ciclos económicos (Skousen 2005).

En opinión de autores como Mark Skousen o Israel Kirzner las diferencias entre ambas escuelas no son tan importantes. Según Kirzner:

«It is important not to exaggerate the differences between the two streams...There is an almost surprising coincidence between their views on most important policy questions...both have basically the same sound understanding of how a market operates, and this is responsible for the healthy respect which both approaches share in common for its achievements» (Kirzner 1967, 102).

Sin embargo, autores como Walter Block y el profesor Huerta de Soto, señalan que las diferencias son significativas. Para Huerta de Soto, tanto los teóricos keynesianos como los monetaristas de Chicago pertenecen a la Escuela Neoclásica de Macroeconomía pues basan su análisis de la economía en agregados estadísticos ignorando los procesos microeconómicos del mercado (Huerta de Soto 2011).

IV

LAS DIFERENCIAS ESENCIALES ENTRE LAS DOS ESCUELAS DE PENSAMIENTO ECONÓMICO.

1. La metodología de la ciencia económica

Una de las principales diferencias entre ambas escuelas es el enfoque metodológico que utilizan. De acuerdo con los principales autores de la escuela austríaca la ciencia económica parte de un axioma central, la acción humana, y a partir de ese presupuesto irreductible se deducen de forma lógica una serie de leyes económicas que son apodícticas (método apriorístico-deductivo). Estos autores establecen una separación entre la teoría y la historia y piensan que es imposible hacer contrastación empírica de las leyes económicas (Mises 1949). El método austríaco se basa en el individualismo metodológico según el cual sólo los individuos actúan en el mercado y los fenómenos macroeconómicos hay que explicarlos en términos microeconómicos (Ravier 2010).

En cambio, la Escuela de Chicago se caracteriza por la metodología positiva y el instrumental empírico que utilizan. Para los economistas de Chicago el método de la economía es el mismo que el de las ciencias naturales (monismo metodológico) y el objetivo del economista es predecir en términos cuantitativos en lugar de analizar la realidad económica. Este planteamiento lo sistematizó Friedman en un artículo que ha tenido un gran impacto en la ciencia económica y que se titula «La metodología de la economía positiva» (1967). Como indica el propio Friedman:

«La economía positiva es en principio independiente de cualquier posición ética particular o de juicios normativos. Como Keynes afirma: trata con «lo que es», no con «lo que debe ser». Su objeto es proporcionar un sistema de generalizaciones que pueda usarse para hacer predicciones correctas sobre las consecuencias de cualquier cambio en las circunstancias. Su función debe ser juzgada por la precisión, fin y conformidad con la experiencia de las predicciones realizadas. En una palabra: la economía positiva es o puede ser una ciencia «objetiva», precisamente en el mismo sentido que cualquiera de las ciencias físicas» (Friedman 1967, 3).

2. La función del gobierno en la sociedad

Ambas escuelas defienden el libre mercado y un papel reducido por parte de los gobiernos y cuentan con autores minarquistas que consideran que el Estado puede tener unas funciones mínimas. Dentro de esta corriente estarían pensadores como Friedrich Hayek y Ludwig von Mises por parte de la Escuela Austríaca y Milton Friedman de la Escuela de Chicago. Sin embargo, los autores austríacos están más cercanos a la filosofía política libertaria y es que Friedman y otros teóricos de Chicago incluyen muchas áreas para la intervención del gobierno como la política monetaria, el sistema educativo, la política fiscal, etc. Friedman propuso el sistema de cheque-escolar que, aunque permite una mayor libertad de elección de los centros educativos sigue siendo un modelo basado en la financiación pública. Además, Friedman era partidario del «impuesto negativo a la renta» una especie de complemento a la renta para las personas que estén por debajo de un determinado nivel de ingresos y que se asimila a un mecanismo del «estado del bienestar», un modelo criticado por los liberales de la Escuela Austríaca (Skousen 2005).

Otro aspecto donde los economistas de Chicago se han mostrado más intervencionistas es en la defensa de la legislación *Anti-trust* por parte de autores como Henry Simons y George Stigler. Esta idea parte de una concepción estática de la competencia según la cual es negativo que en un momento determinado haya una empresa que obtenga una gran cuota de mercado en un sector,

pero según la concepción de la Escuela Austríaca la competencia es un proceso dinámico de rivalidad empresarial y no debe haber ningún problema en que en un entorno de libre mercado una empresa obtenga un rol preponderante en algún momento. Lo importante para los austríacos es que el estado no otorgue privilegios de monopolio o cree barreras de entrada para el ejercicio de la función empresarial y están en contra de la legislación antimonopolio.

Como hemos señalado anteriormente, en ambas escuelas hay teóricos anarquistas de mercado, pero entre la visión de David Friedman y la de Rothbard o Hoppe hay algunas diferencias siendo la principal que Friedman propone este sistema por motivos de eficiencia económica basándose en argumentos utilitaristas mientras que Rothbard se basa en una ética racional objetiva para defender este sistema social (Skousen 2005).

3. La política monetaria y el sistema bancario.

Ambas escuelas defienden un sistema monetario estable y rígido, pero discrepan en la estrategia para lograrlo. La mayoría de los autores austriacos defienden el patrón oro clásico (Mises, Huerta de Soto, Rothbard) o un sistema de banca libre donde los bancos compitan en la emisión de medios de pago (Hayek, Selgin, White). En todo caso, los austriacos se oponen la existencia de un banco central entendido como órgano de planificación financiera (Rothbard 1962). La Escuela de Chicago rechaza el patrón oro y en su lugar propone un sistema de dinero fiduciario (fiat money) emitido por un banco central, pero con un ritmo fijo de crecimiento monetario (Friedman, 1970) conocido como la «regla monetaria» que de acuerdo con Friedman podía estar entre un 3% y un 5% para la economía norteamericana.

Una diferencia importante es que en términos relativos la Escuela Austríaca prefiere los tipos de cambio fijos a los flexibles (Hayek 1978) pues generan más estabilidad mientras que la Escuela de Chicago, al igual que los autores keynesianos, prefiere los tipos flexibles, pues permiten devaluar en momentos de crisis económica. Según el profesor Huerta de Soto:

«Para Hayek las manipulaciones fiscales y monetarias que prescriben keynesianos y monetaristas generan graves distorsiones en la coordinación intertemporal del mercado. Por eso Hayek está a favor de patrones monetarios rígidos y en contra del nacionalismo monetario y de los tipos de cambio flexibles que abogan tanto Keynes como los teóricos de la Escuela de Chicago» (Huerta de Soto 2010, 132)

En relación con las reservas bancarias hay que señalar que existe un debate dentro de cada escuela. En la Escuela Austríaca hay defensores del coeficiente de caja del 100% como Mises, Hayek, Murray Rothbard, Huerta de Soto o Walter Block mientras que otros autores como Larry White o George Selgin defienden un sistema bancario que pueda actuar con reserva fraccionaria.

La escuela de Chicago también cuenta con teóricos que han propuesto un encaje del 100% para la banca. La propuesta de la escuela de Chicago a favor de un coeficiente de caja del 100% comenzó con un escrito anónimo titulado «Banking and Currency Reform» en 1933 que hicieron circular Henry Simons, Lloyd W. Mints, Aaron Director, Frank Knight, Henry Shultz, Paul Douglas y Albert Hart entre otros.

Milton Friedman también defendió el coeficiente de caja del 100% en su libro *Un programa de estabilidad monetaria y reforma bancaria* (1959). En general, los autores de Chicago que han defendido esta reforma monetaria lo hacen en el marco de un sistema de dinero fiduciario con banco central y como una forma de hacer más previsible la política monetaria. Como señala el profesor Huerta de Soto:

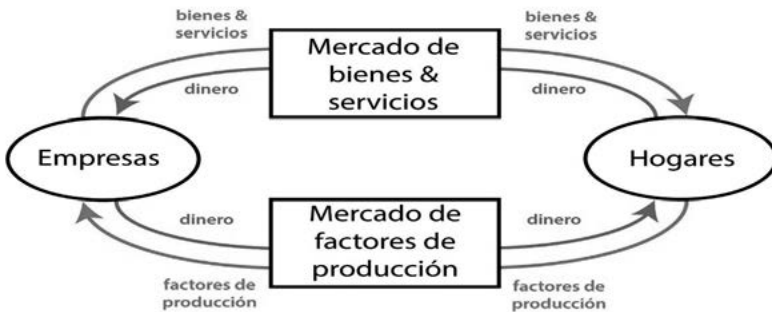
«Dejando aparte el caso de Henry C. Simons, que es el que más se aproxima a las exigencias jurídico-institucionales de la propuesta del coeficiente de reserva del 100 por cien, en general los teóricos de la Escuela de Chicago la han defendido exclusivamente por razones pragmáticas, al pensar que con este requisito la política monetaria del gobierno sería más fácil y predecible. Los teóricos de Chicago pecaban, por tanto, de ingenuidad al pensar que los gobiernos querrían desarrollar en todas las circunstancias una política monetaria estable» (Huerta de Soto 2011, 572)

4. La Macroeconomía del capital y la teoría del ciclo económico

Los teóricos de Chicago carecen de una teoría subjetiva del capital y es que, para los autores neoclásicos (Clark, Knight) el capital es un fondo o magma homogéneo que se autorreproduce sólo al margen de las decisiones de los empresarios mientras que los autores austríacos entienden que el capital está formado por un conjunto heterogéneo de bienes de capital que constantemente hay que ir reemplazando para hacer frente a la amortización de los mismos (Huerta de Soto 2011). Böhm-Bawerk y Hayek calificaron de mítica la concepción del capital de los monetaristas en los debates que mantuvieron con Clark y Knight respectivamente y en el que también participó Stigler, que era crítico de la teoría subjetivista de Menger y de la diferenciación que establecía el austríaco entre bienes de distintos órdenes según su cercanía a la etapa final de consumo (Huerta de Soto 2011).

Knight concibe la economía como un sistema circular sin etapas de dimensión temporal en el cual los agentes económicos reciben rentas de las empresas que a su vez consumen en los productos que estas fabrican (Huerta de Soto 2011). En la siguiente imagen se puede observar una representación del modelo de flujo circular de la renta elaborado por Knight.

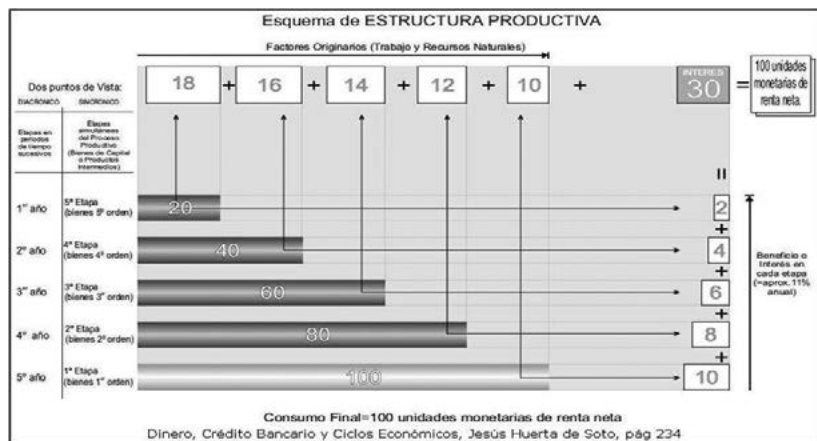
GRÁFICO I
EL MODELO DEL FLUJO CIRCULAR DE LA RENTA



Fuente: Elaboración propia basada en la representación de varios libros académicos.

Este modelo contrasta con la estructura temporal por etapas de la Escuela Austríaca que entiende que los procesos productivos conllevan tiempo y que los bienes económicos pueden encontrarse en diferentes etapas con relación al bien final de consumo. El siguiente gráfico muestra una representación de este modelo vertical.

GRÁFICO II
ESTRUCTURA PRODUCTIVA EN LA ESCUELA AUSTRÍACA



Fuente: Extraído del libro *Dinero, crédito bancario y ciclos económicos* (2011, 234)

Este esquema muestra que todo proceso productivo conlleva una serie de fases o etapas desde la primera representada por el bien final de consumo (ej., un vehículo) pasando por varias etapas intermedias (ej., conversión del hierro en acero en un alto horno) hasta la etapa inicial (ej., extracción del mineral de hierro).

En cuanto a la teoría de los ciclos económicos cabe señalar que los monetaristas suelen atribuir la crisis a la deflación monetaria de la etapa recesiva como hicieron en los años de la Gran Depresión mientras que los autores de la Escuela Austríaca piensan que el origen de los ciclos está en la fase previa de expansión artificial

del crédito y que el dinero nunca es neutral, sino que modifica la estructura de precios relativos de la economía (Huerta de Soto 2011). Los monetaristas utilizan la ecuación de intercambio que fue propuesta por Irving Fisher (1867-1947) en su obra *The Purchasing Power of Money* (1911) y según la cual $MV = PT$, siendo M la masa monetaria, V la velocidad de circulación del dinero, P el nivel general de precios y T el conjunto de transacciones. Esta teoría muestra una realidad y es que la creación monetaria hace que el poder adquisitivo de la unidad monetaria baje y los precios de los bienes y servicios aumenten, pero, debido a su enfoque agregado, oculta los aspectos más importantes del proceso y es que los precios no suben de forma unísona y en la misma proporción, sino que se produce una distorsión en los precios relativos (unos precios suben más que otros y en distinto lapso temporal) y una redistribución injusta de la renta (los primeros perceptores del dinero de nueva creación salen ganando pues pueden comprar a precios que aún no han recogido el impacto monetario mientras que los últimos perceptores salen muy perjudicados pues el poder adquisitivo de la moneda es entonces muy reducido) (Huerta de Soto 2011)

5. Conclusiones de la investigación

Aunque las dos escuelas se suelen presentar como defensoras de un sistema de libre mercado hemos visto que hay muchas diferencias en áreas de gran relevancia como la metodología, el papel de la intervención del gobierno, el sistema financiero ideal y la explicación de las crisis económicas y del funcionamiento de la economía de mercado. Para finalizar se presenta un cuadro resumen donde se comparan las diferencias entre ambas escuelas.

CUADRO I
DIFERENCIAS ESENCIALES ENTRE AMBAS ESCUELAS

<i>Criterio de Comparación</i>	<i>Escuela Austríaca</i>	<i>Escuela de Chicago</i>
La función del economista en la sociedad	Analizar los procesos de mercado	Predecir de forma cuantitativa mediante el uso de modelos matemáticos.
Metodología de la ciencia	Apriorística-deductiva. Dualismo metodológico. No se pueden contrastar empíricamente las teorías.	Contrastación empírica de las hipótesis. Monismo metodológico. Enfoque positivista o cientista.
Concepto de competencia empresarial	Es un proceso dinámico de rivalidad empresarial	Es un modelo estático de «Competencia perfecta»
La concepción del capital	Es un conjunto heterogéneo de bienes de capital. Teoría subjetiva del capital	Es un fondo homogéneo que se autorreproduce solo. (Concepto mítico del capital)
La estructura productiva	Es proceso de producción es dinámico y está formado por múltiples etapas de naturaleza temporal	Se ignora la influencia del tiempo. La estructura es circular según el modelo de «flujo circular de la renta»
El Sistema Financiero ideal	Se propone un sistema de libertad bancaria en ausencia de banco central.	Se defiende el sistema fiduciario gestionado por un banco central sometido a reglas monetarias (Friedman)
La teoría del ciclo económico	La crisis se debe a la fase previa de expansión crediticia generada por la intervención de los bancos centrales.	La crisis se debe a que el banco central no interviene para generar liquidez en la fase de contracción monetaria.
La función del gobierno en la sociedad	Mínima con gran presencia de autores anarcocapitalistas.	Mínima en muchos aspectos, pero amplia en sectores como el financiero y bancario.

Fuente: Adaptación propia del cuadro comparativo elaborado por Huerta de Soto en *Dinero, crédito bancario y ciclos económicos* (2011, 449-450)

REFERENCIAS BIBLIOGRÁFICAS

- Block, W (2002). «Henry Simons is Not a Supporter of Free Enterprise», *The Journal of Libertarian Studies*, 16, 4, 3-36.
- (1976). *Defendiendo lo indefendible*. Madrid, Innisfree.
- (2006). *The Privatization of Roads and Highways: Human and Economic Factors*. Auburn, Ludwig von Mises Institute.
- Bohm-Bawerk, E.v. (1895). «Professor Clark's Views on the Genesis of Capital», *The Quarterly Journal of Economics*, 113-131.
- Coase, R. (1937). «The Nature of Firm», *Economica*, 4, 16, 386-405.
- (1960). «The Problem of Social Cost», *The Journal of Law & Economics*, 3, 1-44.
- Davis, J. R. (1968). «Chicago Economists, Deficit Budgets, and the Early 1930s», *American Economic Review*, 58, 3, 476-481.
- Fisher, I. (1911). *The Purchasing Power of Money*. New York, The Macmillan Co.
- Friedman, M y Schwartz, A (1963). *A Monetary History of the United States 1867-1960*. Princeton, Princeton University Press.
- Friedman, M. (1970). *Un programa de estabilidad monetaria y reforma bancaria*. Barcelona, Ediciones Deusto.
- (1980). *Free to Choose*. Harcourt.
- (1967). *La metodología de la economía positiva. Ensayos sobre economía positiva*. Madrid, Editorial Gredos.
- Hayek, F. (1936). «The Mythology of Capital», *The Quarterly Journal of Economics*, 50, 2, 199-228.
- (1945). «The Use of Knowledge in Society», *American Economic Review*, 4, 519-530.
- (1978). *La desnacionalización del dinero*. Barcelona, Folio.
- Huerta de Soto, J. (1992). *Socialismo, cálculo económico y función empresarial*. Madrid, Unión Editorial.
- (2010). *La escuela austríaca: mercado y creatividad empresarial*. Madrid, Editorial Síntesis.
- (2011). *Dinero, crédito bancario y ciclos económicos*. Madrid, Unión Editorial.
- Kirzner, I. (1966). *An Essay on Capital*. Nueva York, Augustus M. Kelley.
- (1967). «Divergent Approaches in Libertarian Economic Thought», *Intercollegiate Review*, 3, 3, 101-108.

- (1992). *The Meaning of Market Process*. London: Routledge.
- Knight, F. (1921). *Risk, Uncertainty and Profit*. Boston, MA: Hart.
- Menger, C. (1871). *Principios de Economía Política*. Madrid, Unión Editorial [2012].
- Mises, L.v. (1949). *La acción humana: tratado de economía*. Madrid, Unión Editorial.
- Parella, J.F. (2012). *Economía*. Madrid, Unión Editorial.
- Ravier, A. (2010). *En busca del pleno empleo*. Madrid, Unión Editorial.
- Rothbard, M. (1962). *Man, Economy and State*. Auburn, Ludwig von Mises Institute.
- (2009). *La ética de la libertad*. Madrid, Unión Editorial.
- (2013). *Historia del pensamiento económico*. Unión Editorial.
- (2013). *Hacia una nueva libertad*. Madrid, Unión Editorial.
- Sánchez, F y Soto, A. (2015). *El padre de los Chicago Boys: Arnold Harberger*. Centro de Estudios Bicentenario.
- Selgin, G. (2011). *La libertad de emisión del dinero bancario: crítica del monopolio del Banco Emisor Central*. Madrid, Unión Editorial.
- Simons, H. (1936). «Rules versus Authorities in Monetary Policy», *Journal of Political Economy*, 44, 1, 1-30.
- Skousen, M. (1990). *The Structure of Production*. Nueva York, NYU Press.
- (2000). *The Making of Modern Economics: The Lives and Ideas of the Great Thinkers*. Londres, Routledge.
- (2005). *Vienna & Chicago, Friends or Foes?: A Tale of Two Schools of Free Market Economics*. Salem, Capital Press.
- Smith, V. C. (1993). *Fundamentos de la banca central y de la libertad bancaria*. Madrid, Unión Editorial.
- Stigler, G. (1994). *Production and Distribution Theories*. New Brunswick y Londres, Transaction Publishers.
- Wapshott, N. (2013). *Keynes vs Hayek: el choque que definió la economía moderna*. Barcelona, Deusto.

TALKING TO WALLS. THE SOCIALIST CALCULATION DEBATE THAT NEVER REALLY WAS ONE

BRECHT L. ARNAERT*

Fecha de recepción: 24 de abril de 2018

Fecha de aceptación: 27 de septiembre de 2018

I

INTRODUCTION

In his book «Socialism, Economic calculation and Entrepreneurship» Dr. Jesus Huerta de Soto (2010) gives an account of the history of the socialist calculation debate, in which he shows very clearly why the political left today still believes a socialist economy is possible. The popular wisdom in those circles, namely, is that in 1936, Oskar Lange (Lange, October 1936: 53–71 & February 1937) succeeded in refuting Mises' claim that central planning could not work because the information that is needed to draw up such plans can only be generated in a free market. This paper wants to show that nothing could be further from the truth: Lange never answered Mises' fundamental challenge, nor was there any other socialist economist that has been able to refute his central argument. A lot of straw men died, but Mises' fundamental argument lives.

* The author is a PhD Candidate in the Austrian Economics program at Rey Juan Carlos University in Madrid and the Chief Editor of www.macrotrends.be, an investment newsletter aiming to apply Austrian theory to investing.

II THE MISESIAN ARGUMENT (1920)

If one believes that value is dependent on costs, the only conclusion one can draw from the observation of an everyday production process is that labour is being exploited: the worker worked for eight hours, but the value of his produce could pay him for ten hours. If so, the «surplus value» created by the worker is stolen by the capitalist and must be returned to society.

One way to do this is to levy taxes, but that only reduces the problem. It does not solve it. As long as the value of production is higher than its cost, exploitation remains a «fact» and therefore the only just redistribution is no redistribution at all, but a centrally planned economy. If you can figure out how prices can match costs from the start, then a tax system is superfluous, because there is no exploitation in the first place. Central planning is the answer.

The first and foremost problem for such a central planning agency however, is to know at what cost things can be produced without the alleged exploitation. In other words: how much did the original factors of production «really» cost? If this can be calculated, the only thing the central planning agency has to do is to subtract the exploitation premium from the old selling price and in doing so the price will match the «true» cost.

But then a first problem arises. When building tractor, unit 239 rolling of the assembly line has a different cost than unit 99 and yet another cost than unit 1. The direct cost of resources (steel, paint, rubber) is namely only one of the costs involved. Besides those direct costs, there are a lot of overhead costs as well (maintenance of the assembly line, illuminating of the factory hall, heating of the hall, ...) and those costs can only be incorporated in the final selling price if one knows beforehand how many tractors are needed. If only 30 are needed, the overhead cost per unit will be a lot higher than when 300 are needed. Since in the socialist «non-exploitation model» the price has to equal the production cost, it is essential to know beforehand how many tractors are needed. Or else central planning (matching prices with costs) won't work.

A benevolent observer might claim that the central planning agency will find a way to know beforehand how much tractors

must be produced, and plan accordingly. It is here the fundamental insight of Mises comes into play: how?¹ How can the central planning agency know what is needed before production starts? By asking the consumers? By setting «trial and error»-prices? By computing statistic averages? We will see that all these «solutions» miss the fundamental point: the necessity of property rights for economic calculation. Without property rights, no central plan can ever work.

The Misesian argument can be summarized in three propositions:

1. If the economy is centrally planned, there is no more private property.
2. If there is no more private property, goods can no longer be exchanged.
3. If goods no longer can be exchanged, there are no market prices.

As such, we arrive at the core of his argument: if there are no market prices, then how on earth will the central planning agency be able to calculate costs? The logical fallacy that cost determines price becomes clear: it is the other way around. To sum up the argument: if socialism wants to work, it cannot allow private property. And precisely because it doesn't allow private property, it doesn't work.

The briefest illustration of this truth can be found in the production process itself. Let's assume that — by using magic, preferably of the Copperfieldian sort — the central planning agency knows *beforehand* that 300 tractors are needed. Even granted this information, the question remains: how can you build a tractor with steel that has no price, paint that has no price, or rubber that has no price? One cannot claim that resources will still have prices, while other things do not. Prices are the result of an exchange of

¹ This three-letter word is the most hated noun by socialists of all countries. When debating them is not wise to attack their ends, because they generally spring from good intentions. The attack should be on their means: how are you going to achieve what you are aiming for without invalidating your initial good intention? If the intention is «freeing the worker from exploitation», running the economy like a slave plantation cannot be the answer.

property. If all property is abolished, then nothing has a price. Not even resources.

But let's stay benevolent to the idea. Let's even grant the assumption that somehow, besides knowing the amount of what is to be produced, the planning agency can know the cost of the resources required for the production process. This again requires magic, and since we are talking about an enormous amount of prices, this time Copperfieldian magic will not suffice. We will have to invoke magic on an even higher level, let's say that of Houdini: nothing has a price, yet still our central planning agency will be fed with the right prices of the resources it uses to produce the exact quantity of goods the people need. One cannot get more benevolent than this.

Now consider this: even under those best of assumptions, and with the best magic that money can buy, the core problem is not solved: how would that information be *generated* in the first place? Copperfield and Houdini did their best to *deliver* the right information about the prices at the right time. But did they also *create* that information? No, that would be overestimating their capacities. Who can exploit information no one else has yet acquired, and create value from that information? Who can estimate future profits nobody else can yet imagine, and pay the workers today? Who has the power to create such data?

There is only one answer to these questions: *the entrepreneur*. It would seem that the creation of this kind of information requires magic of the sort only Merlin can produce and yet, this miracle is performed on a daily basis. Socialist theorists never incorporate this «factor» into their economic model. They fail to see that an act of entrepreneurship creates the very information they would need to plan the economy. They think that central planning does not work because entrepreneurs (be it in the black market or elsewhere) thwart their beautiful central plan. That is why legislation is needed: allowing free entrepreneurship is incompatible with central planning because it distorts the precious data they are diligently working with.

What they fail to see is that the reality is just the opposite: their central plan does not work, because it is based on information that is outdated. It once did depict real market conditions, but ever

since this data entered their planning, people have moved on, and the relative structure of prices has irrevocably changed. By the time any grand plan for central production would be ripe for execution, both the planned demand and the foreseen supply will not hold true anymore, the consequence of which will be that the centrally fixed prices in no way will reflect the true offer and demand at that point in the evolution of market. In short: socialist economic engineers do not understand that the market is a process, not a place.

Let me illustrate this. When I buy an apple, I do not only influence the price of Jonagolds, but also the price of pears, cars and F-14 Tomcat fighter jets. Every action in the market has an influence on other actions, and precisely because that second set of market actors engage in exchange, yet another set of market actors are influenced to do the same. Me eating an apple in Madrid may cause a contractor signing a multimillion-dollar contract in Singapore. I don't know. All I know is that by my actions I have instantly changed the relative price system, which instantly leads to other changes, which instantly leads to yet other changes². For proverbial use, one could even say that the price already *is* the calculation³.

That is what planners fail to see. All central calculation comes too late, because there is no system faster than the price system to transmit a change in market conditions: one apple been consumed, produce another. By the time a central planner knows that an apple must be produced, has — politically — decided which orchard has

² Having said this, I want to stress that the only thing that has changed instantaneously is what we could call the virtual price structure, by which I mean the price structure that comes about after adding (producing) or subtracting (consuming) a product to the market. To make this virtual change in prices real, however, this change in prices has to be discovered. That is the essence of the Hayekian analysis: entrepreneurship is about showing «perspicaz»: the ability to observe changes nobody else has observed yet. In this regard, socialism can be seen as the institutional arrangement of deliberately slowing down that process.

³ I do not claim, however, that all information is already contained in the price. Quite the contrary: prices come about only when market actors exchange property titles, and it is precisely these actions that change prices, inducing yet another set of market actors to act. The proponents of the «Efficient Market Hypothesis» fail to understand this. So yes, the price *is* the calculation, but only for that very moment.

to produce that apple, has transmitted that order to Public Orchard nr. 56 and has replenished the stock of apples, I have already eaten a dozen more. Or none. I might have eaten so many apples in my life that I never want to eat one more apple. The future of what is needed is radically uncertain. Entrepreneurship mitigates that uncertainty.

That is the true «miracle» of the market. By buying products, I coordinate the production of other products. Even doing *supposedly* nothing is enough to make prices change: my breathing makes the value of forestry go up. Even if I have no intention of doing so, the mere fact that I am alive is inducing others to undertake action. Not by forcing them, but by creating profit opportunities they will be happy to exploit. As my actions are distorting the previous price of everything, new actions will be required to find a new balance. And in turn, those actions will create new distortions, providing new profit opportunities for others to take advantage of. It is a never-ending process of action, just as life itself.

The market is the social institution that coordinates those actions. Central planners do not understand this fact. To them, prices are a static given, which have nothing to do with the dynamics of life. Life, in their view, is nothing but a methodological nuisance disturbing their calculations. That also explains why socialist regimes cannot but require an iron discipline of their citizens when it comes to following their ideology: any human action distorts their static economic planning. The only way socialism can work, is if man can be administered in the same way steel, paint or rubber are: having no will of its own, not thinking, not being creative in and of himself. Or in short: if man is no longer man.

Confronted with these arguments, one could call it a day and conclude that Mises refuted the possibility of central economic planning. If the cost of production can never be known (1), if the transmission of information by necessity must always be late (2), and the information needed for central planning can only be created through entrepreneurship (3), what else is there more to say? This critique was already devastating.

But then there are the eternal sceptics, the kind of people that invent all kinds of presuppositions to resuscitate a failed idea. Not hindered by the fact that those presuppositions would require

more proof than the conclusion they are challenging, they go on asking:

«What if, somehow, combining the magical forces of David Copperfield, Houdini, Merlin, The Amazing Jonathan, Bill Malone, Matt Wayne, Dick Zimmermann, Gregory Wilson, Harry Blackstone Junior and Senior, Jay Marshall and some others, the central planning agency would find a method that allows it to acquire the right information at the right time, faster than the price system and created by a sort of pseudo-entrepreneurship? Then, under those conditions, central planning could work, couldn't it?»

The sceptic waits in hopeful expectation. Theoretical Misesians remain calm: «No».

When a friend tells you he opened a copy shop next to your former high school and brags on how profitable it is, you kick yourself in the head and you think: «Why didn't I think of that? I walk past my old school every day. I saw the empty store. I remember how I always had to wait in line at the school's own copy service during lunchtime, and how much I hated that. Why didn't I come up with that brilliant idea myself?»

The answer is: you didn't *see* the opportunity. You were less attentive to the same facts, focusing your attention on other problems; you were busy with things that interested you more. You are another person. You are not like your friend. You are a mess at deadlines. He only feels alive when he has one. You don't like the stress of copy shops. You like the convivial atmosphere of candy shops. You are a totally different person, with totally different preferences.

Why is that important in the debate? Well, if two persons can value the same facts differently, then that means that their valuations are *subjective*. By what method is the central planning agency going to compute those different valuations into one central statistic? Computing requires cardinal numbers, but the only valuation people can express is ordinal in kind: that they would like a candy shop more than a copy shop, or not. Try computing an aggregate out of the «firstness» of my preference for a candy shop and the «secondness» of my friend's preference for that same project. No

such thing is possible: valuations are ordinal, mathematics need cardinals.

To finish the argument completely: entrepreneurial information differs from scientific knowledge in that it is not generally known. If it would be, it would cease to be entrepreneurial information, since the wider the knowledge of an opportunity spreads, the less value this unique information potentially has. Entrepreneurial information is therefore necessarily unique and as such cannot be aggregated, since the hallmark of uniqueness is its incommensurability.

Now that we understand the fundamental argument of Mises, the time has come to see what the socialist economic theorists brought into the debate. The reader be warned: this will be boring.

III THE FIRST RESPONSES

The responses of the socialist economic theorists can be divided into two groups: irrelevant and honest. The irrelevant ones fail to answer the fundamental challenge Mises posed. And the honest ones agree with Mises, but do not see it as a problem that socialism is impossible without destroying value. The ideal is more important than the sorry little preferences of the people and socialism must be implemented for socialism's sake. Oskar Lange can be viewed as the iconic figure of the first group, Maurice Dobb as the main proponent of the last.

The first socialist proposals to solve the problem of economic calculation were focused on trying to find a substitute for money. Carl Landauer, for instance, considered it possible to carry out economic calculations in *kind*. One would calculate the value of a given product, *not* using a fixed standard of measurement. This literally comes down to comparing apples with pears. On this most pathetic of responses Mises rightly commented: «Landauer cannot understand that — and why — one is not permitted to add and subtract figures of different denominations. Such a case is of course beyond help» (Mises, 1922 [1982], footnote nr 119). As we have seen above, the very essence of calculating requires a standard of value.

That other big proposal — to do the economic calculations in terms of hours worked — received a lot more attention and was deemed a lot more credible, but as the reader will soon understand, it is in fact just an instance of the same error: no two worked hours are alike. In order to overcome that problem, traditional Marxist doctrine has attempted to reduce the different types of work to what is called ‘simple, socially necessary labor’. But even that is a misgiving, since any attempt to make ordinal values cardinal presupposes a standard. A standard, moreover, which cannot be provided under central planning.

The third futile attempt was to perform economic calculation by using a unit of utility. Again, this assumes away the fundamental problem, namely that value cannot be measured cardinally, and that all the central planning agency would be able to do is to compare values ordinally, excluding the possibility of aggregates from the start. Clearly, the first responses to the challenge of Mises can be summarized under the Spanish proverb: «Todo necio confunde valor y precio», or, in English: «All fools confuse value with price» (Machado 1989, 1, 640, 820)

Why then, did it take so long for Mises to win the debate? One plausible explanation is that two of his predecessors debated non-essentials. In an attempt to impress the socialist economic theorists, they argued that even under an ideal socialist regime, the basic concepts of value and interest could not be dispensed with. Friedrich Von Wieser’s (1889 [1971], 60) book for instance, *Der Natürliche Wert* (Natural Value) focused on the fact that even under socialism, the essential laws of value would still remain in place. The characteristic logic of choice in a market system and in a socialist system would be formally similar.

Böhm-Bawerk (1889 [1959], 345-346), trapped in the same debate on non-essentials, claimed that the fiercely criticized «surplus value» and the ensuing «exploitation», typical of the capitalist system would not disappear under a socialist regime, since the effects of interest in both regimes would be formally similar. A whole sub-debate on the so-called formal similarity of socialist and capitalist systems ensued, causing a shift in the debate: away from the core argument — data-generation under central planning is

impossible — and towards the (technical) problem of how to calculate all this data.

While both arguments were well intended, they did more harm than good, since stressing them so much gave the impression that the fundamental problem — the impossibility of data-generation — was already solved. Indeed, when the assumption is accepted that all information is available to the central planning agency, the only problem remaining is how to solve the economic equations. But that argument is entirely besides the point. The core problem is that without entrepreneurship you have no effective data *to start with*. The essence of the argument is that only the market can generate the data the central planners need — and no such market is allowed.

To this day, socialist theorists use the rebuttals of Wieser and Böhm-Bawerk to claim that even the Austrians agreed on their socialist equilibrium analysis. Valiantly, they grant that Wieser and Böhm-Bawerk were right about value and interest being indispensable, but in the same breath they claim that that could all be solved by complicated mathematics. They are obviously missing the point, but from a strategic point of view that does not matter: all other theorists that followed (Barone, Cassel, Lindhal) seemed to say the same as the Austrians. It was a highly confusing period, and in confusion error always wins.

As such, a lesson can be learned: when entering a discussion, one must always be aware of the terms of the debate. Debates are only won by challenging assumptions, not conclusions. The question is not about the practical possibility of a theory, given certain assumptions, but precisely about the validity of the assumptions, accepted as the given. Any concession on assumptions with the aim of winning a debate on a lower conceptual level will end in failure, because it is precisely the assumptions that frame the debate. In (implicitly) granting the socialist theorists their much-cherished assumption that a state of equilibrium really can be achieved by the central planning agency, the defeat of Wieser and Böhm-Bawerk was 100 % predictable.

Based on the excellent work done by Dr. Huerta de Soto, I will now try to give an oversight of the three main «solutions» to the fundamental challenge of Mises.

1. The mathematical solution

One of the results of a derailed the debate was the common growing belief that socialism was a problem of finding the right mathematical solution. As described above this belief is erroneous, since mathematics requires cardinal values to compute, and the essence of the problem is that valuations are always *ordinal*. Only money can serve the function of integrating all value scales in society, and precisely money is impossible under central planning. But since Wieser and Bohm-Bahwerk had granted the assumption of equilibrium for the sake of the debate, the mathematical solutions were rampant: Taylor (1928), Dickinson (1933), and many others debated with one another about the best answer to the wrong question.

One particularly sad solution is the one advanced by Kläre Tisch, who claimed that it was possible to construct a system of equations with as many equations as unknowns, a system which, once solved, could dispose of the problem of economic calculation. Tisch's doctoral thesis, supervised in 1932 by Schumpeter, gave rise to even more confusion, Mises' 1920 contribution notwithstanding. For a long time it was assumed that the problem of economic calculation was solved, and all that was needed was the right information at the right time. But that was exactly the problem *ab initio*.

2. The method of trial and error

The trial and error method can be seen as a variant of the mathematical solution, in that it tries to avoid the thorny problem of finding one general big equation that can explain all prices. Barone had already observed that mathematical precision can only be achieved at the expense of nearly all the model's remaining explanatory value: the more you try to describe economic reality in mathematical terms, the less it has to do with the reality of economics.

The solution, then, is to try out algebraic formulas, see how much prices they explain and then adapt the formula according with the new information that comes from applying it. A reported shortage or surplus would signal to the central planning agency

that the algebraic model was not reflecting economic reality, and through subsequent adjustment of the formula, the model could be refined.

This solution, again, is the right answer to the wrong question. The question is not how we can calculate an aggregate that would teach us how to achieve a state of economic equilibrium. The real question is if such an economic equilibrium is possible in the first place. Total equilibrium would constitute an economic state in which every demand is met, prices do not change, and individuals never change opinion. In other words: it would negate the very essence of the market process.

3. The error carried to its fullest potential: planimetrics

Planimetrics is the generic heading for all computational methods that try to formulate equations that do not even have the modesty to subject themselves to reality. The ambition of these models is to determine an entire configuration of equilibrium prices *a priori*: regardless of what the market would actually do, it would pre-coordinate the plans of all individuals in society. The price of a beer, the price of wheat to produce it from, the price of the truck that will carry the wheat from the farm to the brewery, and every other price is already implicit in the model.

The fundamental error in this line of reasoning remains the same: all these models assume the information is given at the start of the exercise, while in reality the opposite is the case. One can use the most sophisticated mathematical techniques (such as non-linear programming, whole-number programming, cybernetic models of decision making and many more) to compute aggregates, but nothing can alter the fundamental fact that this information must first be created, and that only the entrepreneurial process — absent in these models — can provide these theorists with this information.

The only information that can ever reach the central planning agency, is information *a posteriori*: the exact opposite of what is required. The hopes of theorists like Leonid Hurwicz, Kenneth Arrow and Richard Musgrave that with the development of

computer science the required computational capacity would become available is the most vivid illustration of the general error involved: to think that the calculation problem would be a problem of application rather than of principle. Huerta De Soto, in his book *Socialism, economic calculation and entrepreneurship* (2010, 59-60) clearly explains why that is: in the case computer technology becomes more readily available for the general public, «there will be a dramatic rise in the quantity and quality of the information generated through entrepreneurship».

As such, the development of computational capacity does not change one iota to the fundamental problem. Quite the contrary: the existence of computers makes the problem central planners have even bigger, since all market participants are now able to carry out computations of prices faster, which enables them to value the results faster, outdating the strenuously collected information by central planners even more rapidly than before. To claim that computers would make the central planning and control of society easier is the same as claiming that the invention of the printing press *reduced* the speed of the spread of knowledge over society during the Renaissance.

In short: all the other corollaries of Mises' fundamental argument remain valid: entrepreneurial information is subjective, individual and ordinal. The appreciation of an opportunity is *subject* to the preferences of the *individual*, and those preferences are ranked *ordinally* in the minds of millions of people. These valuations can never be compared more objectively than the market already does by virtue of the social institution of money, which is the integrator of the ordinal value scales of all individuals in society.

As stated above: observing the same error over and over again becomes boring. But there is one response that was particularly creative in trying to come up with an answer to Mises challenge, to the extent that it deserves separate attention: that of Oskar Lange. This creativity, however, cannot be found on the theoretical level, but rather in the mainstream perception of perfect integration of his ideas with neo-classical theory, obfuscating the obvious fact: Mises' argument stands like a rock. It was Hayek, however, who was able to put the final nail in the coffin.

IV
THE RESPONSE BY OSKAR LANGE (1936)

Combine all the previous erroneous ideas into a whole, dress that up in vague language, and confuse your adversaries by accommodating some of their critiques, and you arrive at the curious notion that came to be known as «market socialism». This solution attracted a lot of theorists (for instance Heimann, Polanyi, Dickinson, Durbin, Lerner) but got his most famous proponent in Oskar Lange. When socialists today are presented with Mises' challenge, they refer to Lange, as if he would have resolved the information issue. He has not.

To an experienced reader, the very notion of a «market for socialism» must come across contradictory. How can one combine the free exchange of property titles with its very negation? How can one conceive of an idea of central planning that is in competition with other central planning? Doesn't that invalidate the whole idea of *central* planning? Isn't the fact of competition — which presupposes at least two centers of decision — the negation of what *central* means? It is clear that by giving in to their original ideal of central planning, the socialist theorists wanted to reap the benefits of the price system, while maintaining the general idea of socialism: that all profits are exploitation. What these theorists tried to do was to square the circle: socialism is possible, if only the market would be allowed to work ... a bit.

The first result of such a conflicting line of thinking is the idea of so-called «parametric» prices. Lange's big dream was that it would be possible to simulate the final state toward which the market process and competitive economics tend, but without a market. He believed that the government should construct a list of predefined prices, which, although not determined by the market, would nevertheless permit rational economic calculation by incorporating the vital information essential for it. These parametric prices would then be used by the producers.

Again, we see the same error coming to the surface: the idea of parametric prices takes for granted that the socialist calculation problem is *already* solved, and goes from there. The information needed to calculate these parametric prices is assumed as given,

while it is exactly this information that cannot come into being under central planning. Even when one would want to make a list with fixed prices for everything, the information needed would have to come from the producers. It is clear that the competitive solution Lange proposed is just a variation on the same error.

V

THE HAYEKIAN NAIL IN THE COFFIN (1940)

What Lange tried to achieve was an integration of socialist economic planning with neo-classical equilibrium theory. This should come as no surprise: the neoclassical model too eliminates the role of entrepreneurship in the discovery and use of profit opportunities, and it filters away any reference to the dynamic process of constant change. As such, it does not differ in principle from Marxist theories, it only does so in degree. If you assume that all vital information is already available to construct the model and go from there, you are only one step away from taking that model and use it for central planning.

One could say that Lange has succeeded in his task: he did integrate his model with the neo-classical one. But the achievement of making one error (socialism) consistent with an erroneous framework (neoclassical theory) does not mean that one has identified how an economy really works. Socialist and neo-classical theorists see *equilibrium* as a state to be achieved while at the same time it is already assumed, and hence, they rest content in describing nothing. As such, Lange received mainstream recognition, not for having rebuked the Misesian argument, but merely for confirming mainstream thought.

In 1940, Hayek (1940 [1972], 198-199) wrote an article that analyzed and criticized Lange's model in great detail and explained, point by point, which implications of the model were problematic. Lange was deeply impressed by these critiques, and acknowledged that Hayek had succeeded in raising a series of essential errors and problems with the model: «There is no question that you have succeeded in raising essential problems and in showing gaps in the pure static solution given by me. I intend to work in this

subject and give an answer to your paper ... sometime in the fall.» (Lange, in a letter to Hayek dated August 31, 1940)

Such an answer never came. Though Lange had privately admitted that there were fundamental errors with his model, he kept on expounding it publicly, and in the last stages of his intellectual life, he even ditched the competitive solution altogether as not being radical enough. Shortly after Hayek's destroying critique, Lange became a member of the Polish Communist Party, and in 1953 he published a work (Lange, 1953) in which he outright praises Stalin's fully centralist economic system, in terms of both theory and practice. Indeed, when one makes an error, one has to accept it down to the root to maintain the idea of consistency.

VI CONCLUSION

When confronted with the arguments of Mises against socialism, the standard response of social democrats in Europe and liberals in the Anglo-Saxon world is that his theory has been refuted. They refer to Oskar Lange, who would successfully have demonstrated how socialism can work, and how it can be integrated in neoclassical theory.

However, only that last part is true. That Lange succeeded in connecting his socialist ideals with the neoclassical theory may be admitted, but it hardly follows that the theory of equilibrium therefore in itself is true. Quite the contrary: precisely by using the erroneous assumptions of neoclassicist theorists, Lange was merely saving face.

The conclusion, therefore, can only be that it was Mises who gave socialism's final theoretical blow. In his 1920 article, he demonstrated that the only way a central planning agency can acquire the information it needs, is by letting the market free. Only when people freely exchange property titles, prices arise. And only when prices arise, goods can be allocated correctly.

Mises reminds us of a very important fact: when two individuals exchange values, an ordinal transaction takes place, not a cardinal one. But yet aggregates need cardinal numbers, and that is

why a central planning agency, even delivered with the «right» information in time, will never see the right information in kind.

Mises also conveys a message to the neoclassical equilibrium theorists: the problem is not that central planning couldn't work under static equilibrium. The problem is that such equilibrium does not exist in the first place. Only when the «disturbing» role of the entrepreneur is fitted into the model, can it be realistic. But precisely because this role is indeterminate, all models fail.

BIBLIOGRAPHICAL REFERENCES

- Adler, S. (1975): «Economic Calculation in the Socialist Commonwealth» in: *Collectivist Economic Planning*, F.A. Hayek (ed.), Clifton: Augustus M. Kelley.
- Arrow, K.J (1974): «Limited knowledge and economic analysis», *American Economic Review*, 64 (March), 1-10
- Böhm-Bahwerk, E. 1889: *Capital and Interest*. South Holland: Libertarian Press. [1959]
- Bradley, R. (1981): «Market socialism: a subjectivist evaluation», *Journal of Libertarian Studies*, 5, 1 (Winter): 23-29
- Brus, W. and Laski, K. (1989): *From Marx to the Market: Socialism in Search of an Economic System*, Oxford: Clarendon Press.
- Bukharin, N.I in E. Preobrazhensky (1966): *The ABC of Communism: A Popular Explanation of the Program of the Communist Party of Russia*, Ann Arbor, MI: University of Michigan Press
- Durbin, E.F.M (1936): «Economic calculus in a planned economy», *Economic Journal* (December). Reprinted in: *Problems of Economic Planning*, London: Routledge & Kegan Paul, 1968, pp. 140-55
- Ellman, M. (1987): «Economic calculation in socialist economies» in Eatwell et al (eds), Vol. 2.
- Gillespie, S. (1990): «Are economic statistics overproduced?», in: *Public Choice*, 67, 3 (December): 227-42
- Hardt, J.P. et al. (eds) (1967): *Mathematics and Computers in Soviet Economic Planning*, New Haven, CT: Yale University Press.
- Hayek, F.A. (1989): 'The Pretense of Knowledge', *American Economic Review*, December, 3-7.

- Hoff, T.J.B. (1981): *Economic calculation in the Socialist Society*, Indianapolis, IN: Liberty Press
- Huerta de Soto, J. (2010): *Socialism, Economic Calculation and Entrepreneurship*, Cheltenham, UK, and Northampton, MA: Edward Elgar Publishing
- Kowalik, T. (1986): «Oscar Lange's lectures on the Economic Operation of a Socialist Society», *Contributions to Political Economy*, 6, 1-24
- (1987a): «Lange-Lerner mechanism», in Eatwell et al. (eds), Vol. 3, 123-129.
- Lange, O (1973): «Letter from Lange to Hayek» dated August 31, 1940 — appearing in Volume 2, *The Complete Works of Oscar Lange*, Dziela, 1973 (Polish)
- (1936): «On the Economic Theory of Socialism,» *Review of Economic Studies*, 4 (October): 53-71.
- Le Grand, J. and Estrin, S. (eds) (1989): *Market Socialism*, Oxford: Clarendon Press
- Leichter, O. (1923): *Die Wirtschaftsrechnung in der Sozialistischen Gesellschaft*, Vienna: Verlag der Wiener Volksbuchhandlung
- Lepage, H. (1980): «Peut-on planifier une économie de marché?» In: *Demain le Libéralisme*, Paris: Librairie Générale Française
- Lindbeck, A. (1971): *The Political Economy of the New Left*. New York, NY: Harper & Row
- Lippincot, B.M (ed.) (1938): *On the Economic Theory of Socialism*, Minneapolis, MN: University of Minnesota Press. 2nd edn, New York, NY: McGraw Hill, 1964
- Machado, A. (1989): «Proverbios y Cantares».
- Machlup, F. (1984): «Knowledge: Its creation, Distribution and Economic Significance», Vol 3: *The Economics of Information and Human Capital*, Princeton, NJ: Princeton University Press
- Mallock, W.H: (1908): *A critical Examination of Socialism*. Reprinted in 1990, New Brunswick, NJ: Transaction Publishers.
- Marx, K. (1967): *Capital, A Critique of Political Economy*. Vol. 1, *The Process of Capitalist Production*, Vol. 2 *The Process of Circulation of Capital*, New York, NY: International Publishers.
- Meade, J.E (1948): *Planning and the Price Mechanism: The Liberal Socialist Solution*, London: George Allen & Unwin
- Mises, L. von (1912): *Theorie des Geldes und der Umlaufsmittel*, Munich and Leipzig: Duncker & Humblot. English translation:

- H.E. Batson, with an introduction of Murray N. Rothbard, *The Theory of Money and Credit*, Liberty Classics, Indianapolis, IN: Liberty Press. [1980].
- (1920): «Die Wirtschaftsrechnung im sozialistischen Gemeinwesen», *Archiv für Socialwissenschaft und Socialpolitik*, 47: 86-121. English translation: S. Adler, «Economic calculation in the socialist Commonwealth» in *Collectivist Economic Planning*, 1975, ed. F.A. Hayek. Clifton, NJ: Augustus M. Kelley, pp. 87-130
- Musgrave, R.A. (1977): «National Economic Planning: the US case», *American Economic Review*, 67, part one (February): 50-54
- Neurath, O. (1919): *Durch die Kriegswirtschaft zur Naturalwirtschaft*, Munich: G.D.W. Callwey. English translation: «Through war economy to economy in kind», in *Empiricism and Sociology*, 1973, Dordrecht: D. Reidel.
- Nutter, G.W. (1983b): «Markets without property: a grand illusion» in: *Political Economy and Freedom: A collection of Essays*, Indianapolis, IN: Liberty Press
- Polanyi, M. (1958): *Personal Knowledge*, Chicago, IL: University of Chicago Press
- Rothbard, M. N. (1991): 'The End of Socialism and the Calculation Debate Revisited', *Review of Austrian Economics*, vol. 5, no. 3, pp. 64-65.
- Taylor, F. M. (1928): «The Guidance of production in a socialist state», lecture delivered on December 27, 1928 on the occasion of his inauguration as president of the American Economic Association.
- Thomsen, E. F. (1992): *Prices and Knowledge: A Market Process Perspective*, London: Routledge.

THE NORMALIZATION OF THE EUROPEAN CENTRAL BANK'S MONETARY POLICY FROM AN AUSTRIAN PERSPECTIVE

LEEF H. DIERKS*

Fecha de recepción: 18 de julio de 2018

Fecha de aceptación: 15 de octubre de 2018

I

NORMALIZATION OF THE ECB'S MONETARY POLICY

After several years of historically low interest rates and quantitative easing, the European Central Bank (ECB) has finally started winding down its ultra-accommodative monetary policy in late 2018. Among the first steps tapering its asset purchase programme (APP), which foresees monthly purchases of up to €30bn per month until September 2018 — «or beyond, if necessary, and in any case until the Governing Council sees a sustained adjustment in the path of inflation consistent with its inflation aim» (ECB, 2018a). By then, purchases of euro area fixed income securities on behalf of the ECB will have mounted to as much as €2,550bn or almost 90% of euro area GDP (€2,834bn in market prices in Q4 2017, the latest date for which data were available (ECB, 2018b)). Further, according to market estimates, the first hike of the main refinancing rate, which was slashed to 0% in March 2016, could emerge in Q1 2019, thereby following a tightening of the monetary policy the US Federal Reserve (FED) had already started in December 2015 (FED, 2015).

* Prof. Dr. Leef H. Dierks, Professor for Finance and International Capital Markets, Faculty of Economics, Lübeck University of Applied Sciences, Germany. E-Mail: leef.dierks@th-luebeck.de. The author wishes to thank the anonymous referees for their valuable input.

II TOO LITTLE, TOO LATE?

According to Hayek's 1920 business cycle theory (ABCT), economic boom and bust cycles are mostly attributed to central bank mistakes (Oppers 2002). The latter usually lead to a number of amplification mechanisms and, ultimately, peak in significant reductions in economic activity. The resulting welfare declines are often sharp and persistent (Brunnermeier and Oemke 2013).

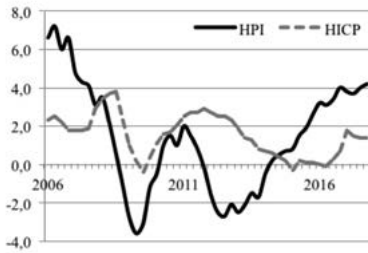
During an economic upswing, the central bank keeps interest rates too low, which, in turn, leads to investment projects with comparatively low marginal efficiency being realized. To a large extent, these projects are financed by the creation of credit on behalf of the banking sector. Rising corporate profits paired with low deposit rates trigger an increase in share prices. As long as the labour market features idle capacities, however, employees' wages will fail to meaningfully rise. Yet, with unemployment falling in line with the economic upswing, wages are set to increase, leading the corporate sector to gradually adjust prices upwards in line with the theory of mark-up pricing. Inflation will start gaining momentum. As soon as the central bank reacts to these developments in an attempt to contain inflationary pressures, those investments featuring a comparatively low marginal efficiency need to be unwound. Eventually, the ensuing economic downturn could turn into a full-blown recession — to which, according to the ABCT, the central bank will (unintentionally) contribute by keeping interest rates too high for too long (Belke and Polleit 2015).

More precisely, Hayek claimed that the creation of credit on behalf of monetary authorities pushed investment beyond society's long-term willingness to save. As illustrated above, this inevitably triggers a mismatch between supply and demand, which would ultimately lead to a recession. Considering that the rapid growth of credit throughout the economic upswing has led to a misallocation of resources, any monetary policy aimed at avoiding (i.e. postponing) a potential recession could only intensify the ensuing correction (Oppers 2002). What is more, an expansionary monetary policy during a period of economic weakness will merely postpone necessary structural reforms, thereby making

the subsequent and inevitable adjustment become even more severe (Dierks 2018).

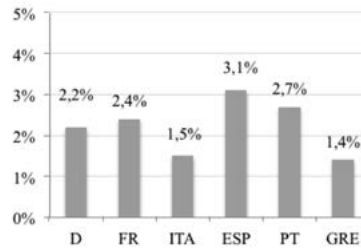
As emphasised by Hayek (1931), central banks tend to keep interest rates too low during economic upswings, thereby unconsciously contributing to the development of economic booms. More recently, however, and in contrast to Hayek (1931), central banks were fast to cut interest rates during a crisis in an attempt to avoid recessions. Further, the (ultra) accommodative monetary policies adopted became visible in rising asset (e.g. property, among others) prices (HPI) — rather than consumer prices (HICP) (fig. 1).

FIGURE 1
HOUSE VS. CONSUMER PRICE
INFLATION



Source: ECB, Eurostat, 2018

FIGURE 2
REAL Y/Y GDP GROWTH
EUROZONE



Note: 2017 data. Source: Eurostat, 2018

In other words, as could be observed in recent months and years, interest rates might well converge towards nil and central banks' balance sheets could be inflated without the need for inflation targeting forcing central banks to tighten their respective monetary policies (Schnabl 2016).

III INTEREST RATES COORDINATE INTERTEMPORAL ALLOCATION

Capital restructuring is both costly and time consuming as the demand mismatch outlined above cannot be immediately

corrected. Yet, in a market economy, prices, i.e. interest rates, are *the* coordination mechanism for any intertemporal allocation. More precisely, Austrians understand an unconstrained market, without policy interference, to be the only mechanism allowing for an effective intertemporal allocation of resources (Oppers 2002).

The relevance of interest rates as a coordination mechanism can be illustrated by a sudden change in consumer preferences, i.e. considering the impact of a decision to increase today's savings (at the expense of postponing consumption). Any such development would increase the supply of loanable funds, inevitably lowering its price, i.e. the interest rate, which, in turn, would lower the (opportunity) cost of investment. This prompts an increase in investment spending; thus expanding the capital base. A larger stock of capital allows for enhancing production with the future supply of consumer goods set to increase. This satisfies consumers' original spending plans as they had consciously postponed consumption before.

IV DISRUPTING THE EFFICIENT INTERTEMPORAL ALLOCATION

According to the Austrian perspective, considering the interest rate's critical role in coordinating intertemporal consumption and investment decisions, attempts on behalf of the central bank to manipulate the interest rate will affect the market for loanable funds. In consequence, any such intervention will inevitably make the plans of consumers and producers intertemporally inconsistent (Oppers 2002).

The ECB's adoption of its (ultra) accommodative monetary policy, i.e. the increase in the amount of money, (typically created through bank credit expansion), has seen market rates drop to below the natural rate in several euro area economies. As a consequence of the low interest rate environment, consumers *ceteris paribus* are tempted to increase consumption (at the expense of today's savings). Producers, in contrast, will seek to enhance production and thus increase investments spending. The inconsistency becomes obvious: as a result of the producers' increasing investments expenditures, future output is set to increase.

Consumers, in contrast, have moved their consumption forwards, i.e. they are likely to consume *less* in the future, not more. Credit-financed investment thus does not match the consumers' (questionable) willingness to postpone their consumption. Instead of observing an intertemporal transfer between consumers (saving) and producers (investing), the easy availability of loanable funds will trigger a competition over resources between these two parties, which can only be partly offset by an increase in output (Oppers 2002). As capacity constraints become evident, however, this competition over resources is typically biased towards investment. In other words: from an Austrian perspective, the improved availability of loanable funds, which results from the central bank's quantitative easing (QE), mainly benefits producers. Investment is set to further increase and to the extent that consumers are not able to spend any more, they will become subject to a so-called 'forced saving' (Hayek 1931).

In the long run, any such credit-induced economic boom is unsustainable. Intertemporal inconsistencies will inevitably materialise, as changes in consumption and production patterns were not triggered by a sudden change in preferences — but by the central bank's intervention. From an Austrian perspective, this has not only led to an *overinvestment* but also provoked a *malinvestment*. QE, i.e. the overabundance of cheap funding induced by the central bank, has sent a wrong price, i.e. interest rate signal. Producers, investing today with the aim to enhance future output, will find themselves unable to satisfy consumers' currently elevated demand.

The excess demand will lead to an increase in prices of those consumer goods, which are readily available relative to future consumption goods; in principle implying little else but an interest rate hike. In consequence, this development will require producers to re-assess their investment decisions as several of these are based on the considerably lower interest rate. Higher carrying costs would yield these investments unprofitable. Owing to this development producers' profits would fall, labour demand would drop and ultimately household (i.e. consumers') income would decline. A recession will inevitably ensue and economic activity will not (fully) recover until producers have succeeded in adjusting their capital stock to meet intertemporal consumer demand again (Oppers 2002).

V SEEKING TO AVOID THE UNAVOIDABLE

At first glance, the developments ultimately leading to the aforementioned recession do not appear to be unavoidable. As long as the central bank succeeds in preventing the (market) interest rate from rising, producers will not face higher refinancing costs and economic activity *ceteris paribus* remains unaffected. In an attempt to firmly anchor the interest rate at its low level, however, yet another increase in the liquidity (credit) provided is compulsory. This renewed QE would trigger the same effects outlined above, eventually, however, (attributed to the intertemporal mismatch between consumption and production), leading to upward pressure on the (market) interest rate again. Put differently: a recession can only be avoided at the expense of ever more credit provision — a situation, which clearly is unsustainable. Owing to the ever-increasing rate of credit creation, the central bank will become concerned about mounting inflationary pressures. At some point, the central bank will start tightening its monetary policy. The interest rate will rise, investments will become unprofitable and the recession described above will ensue.

According to the Austrian perspective, an expansionary monetary policy designed to avoid an adjustment of the capital stock can only postpone a recession, not avoid it, once a malinvestment has occurred. Instead, expansionary monetary policies would merely delay necessary adjustments and might well intensify the intertemporal mismatch between consumption and production as the interest rate's coordinating role continues to be distorted (Oppers 2002).

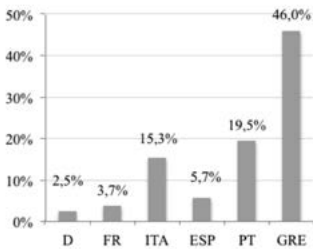
VI ECB'S MONETARY POLICY 'BEHIND THE CURVE'

Provided no unforeseen events occur and inflation expectations do not surprise on the downside, the ECB's extraordinary monetary stimulus will likely be withdrawn over the course of the next few months. As laid out in the ABCT, gradually rising interest rates will render a growing number of investment projects

unprofitable. All other things being equal, the non-performing loan (NPL) ratio is set to rise (fig. 3). Further, higher interest rates, i.e. higher refinancing rates and thus opportunity costs, will typically trigger a moderation of economic activity. This might be a welcome scenario for euro area member states such as Germany, whose current GDP growth exceeds its potential growth (featuring a *positive* output gap), i.e. whose economic activity has started featuring signals of an overheating. For others, in contrast, most notably some of the Mediterranean Rim economies, the end of the ECB's ultra-accomodative monetary policy might still come too early — as their GDPs still remain below pre-crisis levels, respectively (fig. 4).

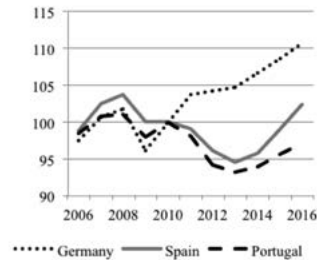
On a more general level, starting in 2012, economic growth in the eurozone has started experiencing a sound recovery with economies such as Spain featuring a GDP growth of as much as 3.1% y/y in Q4 2017 (fig. 4), the latest date for which data were available (EUROSTAT 2018).

FIGURE 3
2017 NPL RATIOS



Source: Eurostat, 2017

FIGURE 4
GDP LEVELS (2010 = 100)



Source: Eurostat, 2018

Inevitably, in light of the rationale outlined above, recent economic developments triggers the question whether the normalization does not simply come too late. Further, the likely very modest pace of any tightening of the ECB's monetary policy might well add to potential woes. Clearly, this raises concerns whether the ECB's move towards a potential rate-hike cycle in 2019 is not considerably «behind the curve» already — or, in other words, to what

extent the ECB merely reacts to market developments — as opposed to leading them.

VII INEVITABLE ADJUSTMENT PROCESSES

In light of the above, it is hardly worth negating that the ECB has started embarking on a tightening course too late. However, from an Austrian perspective, the debate should not focus on timing issues. Instead the question is to what extent a market intervention on behalf of a central bank cannot be primarily considered as the root cause of the distortions: it is an inadequate monetary policy, which ultimately causes and determines magnitude and duration of a boom and bust cycle (Dierks and Polleit 2015).

Scholars of Austrian Economics consider central banking and its basic feature, i.e. the creation of fiat money as well as, most notably, involuntary or ‘forced savings’, to be the root cause of financial and economic crises (Huerta de Soto 2009). Consequently, as outlined above, monetary policy is unable to solve the problems it has caused in the first place. On the contrary, in their attempt to fight financial crises by lowering interest rates and expanding both credit and money supply, central banks not only prevent the economic system from restoring itself back to equilibrium. They also provide incentives for malinvestments, thereby paving the way for the inevitable future crisis (Dierks and Polleit 2015).

Within the scope of a normalization of its monetary policy the ECB aims at pursuing an interest rate policy consistent with bringing the economy onto a path of economic stability paired with an inflation rate of «below, but close to, 2% over the medium term». Market interest rates (and eventually, the ECB’s main refinancing rate) will be guided towards their natural level, i.e. an interest rate, which is believed to be consistent with price stability amid balanced economic growth.

Factors underlying business cycles typically have a variety of origins; including both demand and supply related causes (Dierks 2018). Among these and in light of increasingly mobile capital flows, Austrian factors may have become more important,

especially as, driven by ultra-accommodative monetary policies, herd behaviour and bubbles could encourage malinvestment — such as the one envisaged by Hayek. Thus, as has been noted earlier (Oppers 2002), a complete rejection of the ABCT in recent years goes too far.

Scholars of Austrian Economics understand any normalization of the ECB's monetary policy to inevitably trigger adjustment processes. In other words, even a *gradual* tightening as envisaged by the ECB cannot avoid a subsequent economic contraction. It would simply affect some investments first and spill over onto others as time elapses. Finally, bank (fractional reserve) lending will be directly affected, in turn adversely affecting economic growth. From an Austrian perspective, this contraction (i.e. recession) is little else but the unavoidable result of a multitude of economic activities suddenly grinding to a halt. Typically, this type of activity, which is directly related to a loose monetary policy, is poised to end as soon as market distortions disappear, as they are crucially dependent on cheap central bank funding. Thus, a gradual tightening of the monetary policy would merely delay restoring an effective intertemporal allocation of resources.

According to the ABCT, the expansionary phase of the business cycle will come to an end as soon as the central bank reacts to an increase in consumer price inflation by restricting its expansion of bank reserves. Credit markets will tighten and the risk-adjusted, i.e. market interest rate rises toward its natural level, thereby constricting investment to the limits imposed by voluntary saving (Salerno 2012). Despite euro area consumer price inflation remaining modest at the time of writing, the pending normalisation of the ECB's monetary policy in the months ahead might, to the extent that this has not yet happened, trigger a re-adjustment of the monetary union's credit markets.

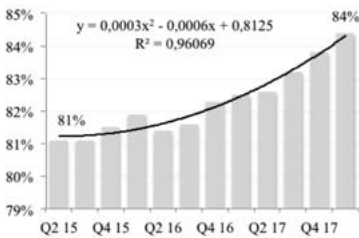
Higher interest rates will bring the investment boom to a halt and corporates producing capital (as opposed to consumer) goods will experience an unanticipated drop in spending on their output and, in consequence, falling prices and profits. At the same time spending on consumer goods will continue to increase (temporarily) as the new money already paid out in wages and rents by producers of capital goods are transformed into spending on consumer

goods with a time lag. Consequently, the price of labour will continue to be driven up by producers of consumer goods. Confronted with rising labour and credit costs, producers of capital goods will no longer be able to profitably sustain production at current levels. Variable costs will be reduced, leading to idle production capacities, as firms downsize — or even go out of business. Unemployment rises and, ultimately, the recession sets in (Salerno 2012).

During any recession, spending on capital goods declines relative to spending on consumer goods, thereby reversing the relative spending streams that characterized the economic boom phase. This reversal will initiate an adjustment process, which, in turn, re-establishes intertemporal consumption preferences and thus the voluntary savings of market participants. The production of consumer goods available for immediate use will increase at the expense of those available in future periods.

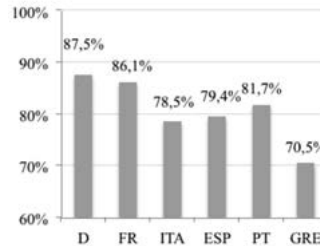
Among the sectors (economies) potentially affected hardest by the adjustments described are those, which currently operate at (or even above) capacity (fig. 5). Among these, inter alia, is the construction sector (across the euro area), which will likely see more moderate activities in the years ahead (fig. 6).

FIGURE 5
EURO AREA CAPACITY UTILIZATION



Source: European Commission, 2018

FIGURE 6
REGIONAL CAPACITY UTILIZATION



Note: Data refers to manufacturing sector in Q1 2018. Source: Eurostat, 2018

An optimal policy response to an economic downturn will thus always vary according to the underlying causes.

VIII CONCLUSION

Considered pragmatically, the ECB's reaction to the financial crisis should not be fully condemned. Nonetheless, a very valid (and difficult to enfeeble) point of criticism is that the ECB's ultra-accommodative monetary policy has prevailed for far too long. Thus, from an Austrian perspective, the normalization, i.e. the tightening of the ECB's monetary policy is not only a step long overdue — but, perhaps even more so, a crucially necessary means to return to a monetary policy, which, in terms of distorting intertemporal allocation, is less harmful than what the euro area had witnessed over the course of the past few years.

Ceasing a predominantly dovish monetary policy will inevitably lead to some (more) unintended consequences (Dierks 2018). If not conducted carefully and in very modest steps, the likelihood of a pronounced dip in economic activity, i.e. a recession, is set to abruptly increase. Perhaps this somewhat resembles a fatalistic view, as it most certainly is too late to adopt countermeasures now. Ideally, at an earlier stage, the central bank had not intervened to this extent — but had instead placed more emphasis on the market's self-healing capacities. In an attempt to moderate the perils of yet another boom and bust cycle, the normalisation, i.e. the tightening of the ECB's monetary policy should have started long ago. Yet, ever since its inception, the European Monetary Union featured considerable conceptual flaws. These, however, despite being well known, only started attracting attention once the financial crisis started gaining momentum; ultimately leaving its mark on euro area money and capital markets. It thus has to be emphasised (again) that, within its current framework, the European Monetary Union cannot prevail in the long-term. Profound reforms need to be urgently adopted.

Challenges are plenty and the long-term impact of the ECB's monetary policy remains as unclear as before. Eventually, as time will tell, the recent monetary policy has already sown the seeds for yet another crisis.

BIBLIOGRAPHICAL REFERENCES

- Belke, A. and T. Polleit (2011): *Monetary Economics in Globalised Financial Markets*, 4th ed., Springer, Heidelberg.
- Brunnermeier, M. K. and Oemke, M. (2013): «Bubbles, Financial Crises, and Systemic Risk, in *Handbook of the Economics of Finance*, Vol. 2B, North Holland, 1221-1288.
- Dierks, L. and T. Polleit (2015): «The Root Cause of Financial Crises or: The Dark Side of Monetary Policy», *Proceedings: Large-scale Crises: 1929 vs. 2008*, Università Politecnica delle Marche, <http://www.1929vs2008.univpm.it>.
- Dierks, L. (2018): «The Unintended Consequences of Monetary Financing», *Procesos de Mercado: Revista Europea de Economía Política*, XV, 2/2017.
- ECB (2018a): «Introductory Statement to Press Conference», March 2018, <http://www.ecb.europa.eu/press/pressconf/2018/html/ecb.is180308.en.html>
- (2018b): «Key euro area indicators» https://www.ecb.europa.eu/stats/ecb_statistics/key_euro_area_indicators/html/index.en.html
- EUROSTAT (2018): «HICP development in the euro area» http://ec.europa.eu/eurostat/web/hicp/data/database?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_BO6Fgp25CkI9&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=3
- FED (2015): «Transcript of Chair Yellen's Press Conference December 16th, 2015», <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20151216.pdf>
- Hayek, F. A. (1931): *Prices and Production*, New York, August M. Kelly.
- Huerta de Soto, J. (2009): *Money, Bank Credit, and Economic Cycles*, 2nd. ed., Auburn, Ludwig von Mises Institute.
- Oppers, S. E. (2002): «The Austrian Theory of Business Cycles: Old Lessons for Modern Economic Policy?» *IMF Working Paper* 02/2.
- Salerno, J. T. (2012): «A Reformulation of Austrian Business Cycle Theory in Light of the Financial Crisis», *The Quarterly Journal of Austrian Economics*, Vol. 15, No. 1, 3-44.

Schnabl, G. (2016): «Central Banking and Crisis Management from the Perspective of Austrian Business Cycle Theory». *CESifo Working Paper 6179*.

COMPETENCIA ENTRE MONEDAS: EJEMPLOS DEL SIGLO XIX

Competition between currencies: examples of the 19th century

JOAQUÍN PÉREZ CANO*

Fecha de recepción: 28 de diciembre de 2017

Fecha de aceptación: 27 de septiembre de 2018

I INTRODUCCIÓN

En este breve ensayo pretendo poner de manifiesto que el debate existente en la opinión pública acerca del sistema monetario que debemos utilizar los ciudadanos occidentales —si queremos vivir en una sociedad libre— no es el correcto. Hemos olvidado que se puede —y se debe — emplear otro tipo de dinero, completamente al margen del sistema monopolístico estatal en el que nos hallamos inmersos actualmente: un sistema que surja de la competencia entre los diferentes tipos de numerario (público, privado, fíat o con respaldo del cien por cien). Para ello muestro cómo se podría implementar este sistema monetario, abriendo el que existe en la actualidad a la competencia, con una serie de modificaciones legislativas. Del mismo modo, presento las pruebas históricas del siglo XIX en España, donde se pone de manifiesto el hecho de que se utilizaban varias monedas nacionales y billetes privados conjuntamente dentro de un país, compitiendo todos ellos entre sí.

* Doctorando de Economía en la Escuela Internacional de Doctorado de la Universidad Rey Juan Carlos de Madrid.

II

NI MONEDA NACIONAL NI MONEDA SUPRANACIONAL

Se habla a menudo sobre si deberíamos volver a la peseta o permanecer en el euro, pero la verdadera cuestión a debatir es la de si deberíamos ser libres para poder elegir el dinero que queramos utilizar, o si por el contrario, deberíamos dejar la provisión de este bien en manos del estado. Mi postura -siguiendo la tradición de la escuela de economía austriaca- es que el dinero es una mercancía más, utilizada como medio común de intercambio, y como tal, se debería tener la libertad de poder escoger cuál es el que queremos utilizar (¿o acaso nos debe proveer el estado los zapatos que debemos calzar o el pan que debemos comer cada día?).

Históricamente, el dinero ha sido una mercancía privada, hasta que en el siglo XIX nos fue arrebatado completamente por el estado. En un principio, el estado únicamente certificaba el peso y la ley de los metales que se utilizaban como tal, para posteriormente apropiarse de la tarea de determinar la cantidad a emitir en una nación, -con las nefastas consecuencias que esto ha conllevado en términos de crisis recurrentes e inflación-. El dinero sirve como medio de intercambio, y por tanto, debe poseer un valor objetivo de cambio¹ para que sea utilizado como tal (o que se trate de un sustituto monetario²), por lo que debemos hacer que su provisión vuelva a las manos de las empresas privadas y arrebatárselo a los gobiernos para que de nuevo posea sus características originarias. Resulta incluso peor, que se trate de una entidad supranacional la que dirija la política monetaria³ (por los problemas de incapacidad de poseer la información relevante)⁴, ya que sus efectos perjudicarán a algunos países mientras que otros saldrán beneficiados por ésta, en un claro caso de «tragedia de los comunes»⁵.

Al arrebatarse el monopolio estatal de la emisión de dinero al estado, prevalecerá el derecho de propiedad -tan diezmado por la

¹ Mises (1912, 84-85)

² Mises (1912, 26)

³ Hayek (1976a, 21)

⁴ Huerta de Soto (1992, 116-117).

⁵ Bagus (2012, 140).

inflación y la inobservancia de los Principios Generales del Derecho- y el dinero -monedas o papel moneda- estará respaldado por una mercancía con valor objetivo de cambio. Esto no es óbice, para que en el mercado sea posible que circulen billetes emitidos por bancos de reserva fraccionaria, si el público decidiese -por su cuenta y riesgo- utilizarlos. Al proveerse el dinero libremente en el mercado cada persona tendría la posibilidad de escoger aquél que considerase mejor, el cual sería el que mantuviese o incrementase su poder adquisitivo en el tiempo.

Para lograr que se permitiese la libre circulación de todo tipo de dinero en España concretamente— se deberían derogar o modificar varios artículos del ordenamiento jurídico, a saber: el artículo 1170 del Código Civil, el artículo 13.1 del Estatuto de los Trabajadores y el artículo 24 del Reglamento General de Recaudación. Al cambiar el citado artículo del Código Civil, se permitiría que las partes pagasen sus deudas en cualquier moneda que libremente pactasen y en caso de no hacerlo, podrían escoger entre un amplio listado de ellas o que una tercera parte decidiese en qué moneda se debe pagar sin tener por qué utilizar obligatoriamente la «moneda de curso legal.» Asimismo, la contabilidad de las sociedades mercantiles se podría llevar en la moneda que los administradores y los socios de las mismas designasen.

III

EL SISTEMA MONETARIO ESPAÑOL EN EL SIGLO XIX

En España, en el siglo XIX se permitió la utilización de varias monedas de diferentes países circulando conjuntamente dentro del territorio nacional: la moneda francesa se utilizaba corrientemente en España en la época de la Guerra de la Independencia. Por la Real Orden de 15 de junio de 1808, se fijaron las equivalencias entre las dos monedas, según el cambio de 5 francos y 33 céntimos por el peso fuerte de plata de 20 reales de vellón, y de 18 reales y 25 maravedís por la moneda de plata de 5 francos; según esta relación, el napoleón de oro de 20 francos equivalía a 75 reales y un maravedí. Posteriormente, José Bonaparte promulgó un decreto el 5 de septiembre de 1808, por el que se modificaban las tarifas

existentes de equivalencias; el napoleón de oro de 20 francos pasaba a equivaler a 75 reales de vellón; el luís de 24 libras torneas equivalía a 88 reales de vellón y 14 ochavos, y el franco equivalía a 3 reales de vellón y 12 ochavos. Aquí, el Gobierno cometía un grave error al querer fijar el gobierno el tipo de cambio entre las dos monedas, sin tener en cuenta su contenido metálico; por este motivo se produjo la expulsión masiva de la «mejor moneda» por la «peor», manifestándose la llamada Ley de Gresham (la cual sólo se cumple cuando los tipos de cambio entre dos monedas han sido fijados arbitrariamente por el gobierno, sin tener en cuenta su valor objetivo de cambio). Además, a mediados del siglo XIX la relación oro-plata cambió (en España la relación legal era 1:16, mientras que en Francia era de 1:15,5 y en Inglaterra era 1:15,2), con lo que los poseedores de moneda española tenían poderosas razones para atesorarla y exportarla, ya que al cambiarla por oro en el extranjero, obtenían una cantidad mayor de dicho metal que el que obtenían en España, -dada dicha relación-.

En 1813, tras la paz, las Cortes de Cádiz, ante la imposibilidad de retirar de la circulación la moneda francesa, autorizó su circulación -mediante el Real Decreto de 3 de septiembre-, según las siguientes equivalencias -más favorables que las de 1808-: el napoleón de oro de 20 francos equivaldría a 75 reales de vellón y el luís de 25 libras tornesas equivaldría a 88 reales y 15 ochavos, el napoleón de plata de 5 francos equivaldría a 18 reales y 12 ochavos (24 maravedises), y el escudo de 6 libras tornesas equivaldría a 22 reales y 3 ochavos. Durante el reinado de Fernando VII, se autorizó la circulación de moneda francesa por el Real Cédula de 30 de septiembre de 1818, según las tarifas de 1813 siempre que «aparezca la efigie Real o el escudo de su reverso», en otro caso, se debía admitir sólo como pasta en las casas de la moneda para refundirla al precio de 20 reales por onza. En 1823, con el Decreto de la Junta Provisional de España, promulgado en Tolosa el 13 de abril, se autorizó de nuevo el curso de la moneda francesa; se fijó el tipo de cambio entre el escudo de 5 francos y el real en 19 reales y 24 maravedís. Este tipo de cambio no tuvo en cuenta el valor objetivo de cambio de la moneda, según el cual, debería haber sido -a lo sumo- de 17 reales y 24 maravedís, con lo cual se atesoraba la española y circulaba la francesa.

<i>moneda francesa</i>	<i>R.D. 15 de junio de 1808</i>	<i>D. 5 de septiembre de 1808</i>	<i>R.D. 3 de septiembre de 1813</i>	<i>D. 13 de abril de 1823</i>
5 francos	18 reales y 25 maravedís		18 reales y 24 maravedís	19 reales y 24 maravedises
napoleón de 20 francos	75 reales y 1 maravedí	75 reales	75 reales	
luís de 24 libras tornesas		88 reales y 28 maravedises	88 reales y 30 maravedises	

Fuente: Elaboración propia

La moneda portuguesa fue autorizada a circular por nuestro país a partir del Decreto de 15 de agosto de 1801, fijándose una equivalencia de 1 real igual a 40 réis. Posteriormente, con los Decretos de 14 de agosto de 1818, de 3 de mayo de 1825 y de 21 de noviembre de 1826, sólo se permitió a la moneda portuguesa cambiarse por su valor objetivo de cambio. Más adelante, con motivo de las guerras carlistas se volvió admitir la circulación de la citada moneda por medio del Real Decreto de 19 de noviembre de 1835, con unas nuevas equivalencias legales, a saber: un cruzado equivalía a 11 reales y 4 maravedís, una corona a 9 reales y 22 maravedís, un tostón de 100 réis a 2 reales y 4 maravedís y 50 réis a un real y 2 maravedís. En vista de que se estaba exportando la moneda nacional -debido a su mayor valor objetivo de cambio- y circulaba la moneda portuguesa, se decidió eliminar las anteriores equivalencias mediante el Real Decreto de 13 de febrero de 1836, autorizándose a circular a las monedas portuguesas de oro y plata, pero solamente por su valor objetivo de cambio, procediéndose a retirar las de cobre. Posteriormente se volvió a autorizar la circulación de las monedas lusitanas por el Real Decreto de 13 de mayo de 1836, la cual duró hasta el año 1855.

<i>moneda portuguesa</i>	<i>D. 15 de agosto de 1801</i>	<i>R.D. 19 de noviembre de 1835</i>
40 réis	1 real	
50 réis		1 real y 2 maravedises

Fuente: Elaboración propia

La moneda inglesa fue autorizada a circular por España con motivo de las guerras napoleónicas de 1813 -provisionalmente durante un año- mediante el Decreto de 13 de junio de 1813. La equivalencia establecida con la moneda española fue de 1 soberano de oro igual a 93 reales y 12 maravedís. Posteriormente, el Decreto de 25 de octubre de 1835 estableció las siguientes equivalencias: 1 soberano de oro era igual a 92 reales y 12 maravedís, 1 corona de plata era igual a 22 reales y 1 shilling a 4 reales y 14 maravedís. Estas equivalencias estaban bastante ajustadas al valor objetivo de cambio de ambas monedas, con lo cual, la moneda española no desaparecía de la circulación. La moneda inglesa estuvo circulando por España con estas equivalencias hasta el año 1852.

<i>moneda inglesa</i>	<i>D. 13 de junio de 1813</i>	<i>D. 25 de octubre de 1835</i>
soberano de oro	93 reales y 12 maravedises	92 reales y 12 maravedises

Fuente: Elaboración propia

Los pesos mejicanos fueron autorizados a circular por España a partir del Decreto de 11 de octubre de 1837, siendo valorados por su contenido metálico y sin permitírseles la admisión en la cajas públicas.

Por lo general, a las monedas extranjeras se les daba por medio de la legislación un valor superior al objetivo de cambio, con lo que éstas desplazaban de la circulación a la moneda nacional —de mayor valor objetivo de cambio—, poniéndose de manifiesto la llamada ley de Gresham⁶. Asimismo, el gobierno español pagaba menos por el metal en pasta que por el metal acuñado, con lo cual se atraía la moneda extranjera.

En España, con motivo de las diferentes guerras: Independencia, carlista y cantonal, se emitieron monedas al margen del gobierno central. En Gerona y Barcelona se acuñaron monedas en 1808 —recogiendo todo el oro y la plata de iglesias y particulares—, cuando, ante el sitio de las ciudades por parte del ejército

⁶ Hayek (1976a, 18).

napoleónico había gran escasez de numerario para llevar a cabo la actividad comercial. En Cartagena, en 1873, con motivo de la declaración de Cantón independiente, la ciudad emitió moneda de plata de 5 pesetas y de 10 reales con la inscripción: «CARTAGENA SITIADA POR LOS CENTRALISTAS, SEPTIEMBRE DE 1873», y en el reverso: «REVOLUCIÓN CANTONAL» y el valor «CINCO PESETAS» o «DIEZ REALES»⁷. En Oñate (Guipúzcoa), en 1874 y 1875, con motivo de la guerra carlista, el rey Carlos VII acuñó monedas de plata de 5 pesetas y de cobre de 10 y 5 céntimos con las leyendas: «DIOS PATRIA y REY» o «REX HISPANIARUM» en las de plata, y «POR LA GRACIA DE DIOS REY DE LAS ESPAÑAS» en las de cobre, las cuales circularon por todo el País Vasco y Navarra⁸.

Con la reordenación del sistema monetario iniciada en 1848 surgió un problema relacionado con la calderilla (moneda de cobre) que circulaba en Cataluña y cuyo valor objetivo de cambio no coincidía con la castellana (la catalana tenía un valor nominal superior al objetivo de cambio). El 13 de marzo de 1850 se ordenó que la moneda de cobre catalana dejase de circular por las provincias valencianas y sólo se autorizaba a hacerlo por las provincias del Principado. El 5 de agosto de 1852, mediante Real Decreto se obliga a recoger toda la calderilla catalana. La Junta de Moneda fijó un plazo para que los cabezas de familia, que poseyeran hasta 80 reales en dicha moneda acudieran a cambiarlos por la castellana. Posteriormente, se fijaría un plazo —no superior a 10 días— para que aquéllos que tuvieran más de 80 reales canjearan su cobre por abonarés, con un importe igual al nominal que hubiesen entregado. Transcurrido este plazo, la calderilla catalana tendría una equivalencia de 8 maravedís las seisenas y 4 maravedís las tresenas y las monedas de cuatro cuartos. Los abonarés recibidos tendrían curso legal en Cataluña, del mismo modo que lo era la calderilla. El gobierno, mediante la Real orden de 6 de diciembre de 1852, decidió poner de nuevo en circulación la moneda de cobre catalana —según las equivalencias decretadas en agosto— ante la imposibilidad de realizar el intercambio.

⁷ Mateu y Llopis (1946, 291).

⁸ Mateu y Llopis (1946, 292).

En cuanto al papel moneda, la competencia se produjo únicamente en las ciudades de Madrid y Cádiz: entre los bancos de Isabel II y el Español de San Fernando y entre el primitivo Banco de Cádiz, el nuevo Banco de Cádiz y el Banco Español de Cádiz, Sucursal del de Isabel II, respectivamente⁹. (El Banco de Isabel II -por medio de su mayor accionista, D. José Salamanca, intentó en varias ocasiones provocar la quiebra del Banco Español de San Fernando presentando al cobro 20 millones de reales de una sola vez)¹⁰. En el resto de las ciudades españolas donde hubo bancos de emisión, la competencia se produjo entre estos y las sociedades de crédito, ya que éstas emitían obligaciones al portador que circulaban como sustitutos monetarios.

En 1851, por la Real Orden de 7 de enero, se prohibió la circulación por España de la moneda de oro francesa, aduciendo motivos de «mengua de nuestra soberanía»¹¹ y de atentar contra el artículo 45 de la Constitución (en ese momento circulaba más moneda francesa en nuestro país que moneda nacional). Por las mismas razones anteriormente citadas, se prohibió en 1852 -Real Decreto de 17 de junio- la circulación de oro británico amonedado, así como de las onzas de oro acuñadas en las repúblicas americanas -Real Orden de 20 de febrero de 1851.

IV CONCLUSIONES

Tras lo expuesto anteriormente, podemos concluir que debemos perseguir el fin de la consecución de un sistema monetario libre si queremos tener un dinero con valor estable, que no conculque el derecho de propiedad y no perturbe el funcionamiento de la economía de mercado¹². Para esto debemos arrebatar al estado el monopolio de la emisión de dinero. Los pasos necesarios para

⁹ Ruíz Vélez-Frías (1977, 10-11).

¹⁰ Zumalacárregui (1952, 205).

¹¹ Anónimo (1862, 80).

¹² En 1874, justo antes de la finalización de la libertad de emisión bancaria, la garantía metálica de los billetes circulantes alcanzaba el 90 por cien de los mismos. Ver Barthe (1905, 36). Asimismo, desde 1870 a 1873, los billetes en circulación emitidos por

lograr este objetivo no son utópicos, ni difíciles de llevar a la práctica y ha quedado puesto de manifiesto cómo los españoles disfrutaban, en el siglo XIX, de un sistema monetario muchísimo más libre que el que padecemos nosotros hoy en día, con una moneda fiat y un banco central en régimen de monopolio.

Desearía finalizar mi ensayo con una frase de Friedrich A. Hayek, en la que nos indica cuál debería ser la dirección a seguir si queremos vivir en un mundo cada día más libre: «Espero que no pase mucho tiempo hasta que la completa libertad para tratar con cualquier tipo de dinero que uno quiera será considerado como el signo esencial de un país libre»¹³.

REFERENCIAS BIBLIOGRÁFICAS

- Anónimo (1862): *Breve Reseña Histórico-Crítica de la Moneda Española*. Madrid, Imprenta Nacional.
- Bagus, P. (2012): *La tragedia del euro*. Madrid, Unión editorial.
- Barthe, A. (1905): *Estudio crítico de la crisis monetaria*. Madrid, Establecimiento tipográfico de Jaime Ratés.
- Fernández Pulgar, C. y Anes Álvarez, R. (1970): *Ensayos sobre la Economía Española a Medios del Siglo XIX*. Madrid, Editorial Ariel.
- Hayek, F. (1976a): *Choice in Currency*. Londres, Institute of Economic Affairs.
- (1976b): *Denationalitation of Money*. Londres, Institute of Economic Affairs.
- (1977): «Toward a Free Market Monetary System», *Journal of Libertarian Studies*, 3, 1, 1-8.
- Huerta de Soto, J. (1992): *Socialismo, cálculo económico y función empresarial*. Madrid, Unión editorial.
- Mateu y Llopis, F. (1946): *La moneda española*. Barcelona, Editorial Alberto Martín.
- Medioni, M. (1979): *El Cantón de Cartagena*. Madrid, Siglo veintiuno de España Editores.

el Banco de España (que de facto era un banco público) ascendían a más del 57 por cien del total en manos del público. Ver Tedde (2015, 208).

¹³ Hayek (1976a, 22). La traducción es del autor.

- Mises, L. (1912): *La teoría de la moneda y el crédito*. Madrid, Unión editorial [1997].
- Paradaltas y Pintó, F. (1847): *Tratado de Monedas*. Barcelona, Imprenta de Tomás Gaspar.
- Ruíz Vélez-Frías, F. (1977): *Los Bancos de Emisión de Cádiz en el Siglo XIX*. Córdoba, Universidad de Córdoba.
- Sardá, J. (1948): *La Política Monetaria y las Fluctuaciones de la Economía Española*, Barcelona, Editorial Altafulla, [1998].
- Tedde, P. (2015): *El Banco de España y el Estado liberal (1847-1874)*. Madrid, Editorial Nadir.
- Zumalacárregui, L. (1952): *El Banco de Isabel II y la Crisis de la Banca de Emisión Española de 1847*. Madrid, Gráficas Reunidas.